CENTRAL PIEDMONT COMMUNITY COLLEGE

win!

HARRY W. LEWIS
SYSTEMS PROGRAMMER
CENTRAL PIEDMONT COMM. COLL.
P. O. BOX 35009
CHARLOTTE, NC 28235

Central Piedmont Community College

Directory

Welcome Center

704/342-6719 — Central Campus
Monday-Thursday: 7:30 a.m.-8:30 p.m.
Friday: 7:30 a.m.-5:30 p.m.
Saturday: 7:30 a.m.-1:30 p.m.

College Switchboard

704/342-6633
Monday-Friday: 8 a.m.-5 p.m.
(Also see Charlotte Telephone Directory for specific Central Campus and Area Center listings.)

Mailing

P.O. Box 35009, Charlotte, NC 28235-5009

Delivery

1201 Elizabeth Avenue, Charlotte, NC 28204

Area Center Locations and Telephones

(not for mailing or delivery)

North Center — Verhoeff Drive, Huntersville, NC
704/875-8360

South Center — Highway 51 and Reverdy Lane
Matthews, NC
704/847-1477

West Center — Freedom Drive, Charlotte, NC
704/342-6658

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Notes

Changes

• CPCC reserves the right to change its regulations, policies, fees, and programs without notice.

CPCC Catalog and CPCC Class Schedules

• Not all courses in this catalog are offered each quarter.

• Quarterly class schedules, listing times and locations of classes to be available during Registration, are distributed in Mecklenburg County approximately six weeks prior to the beginning of each quarter.

• Catalogs and Class Schedules may be obtained at the Welcome Center on the Central Campus, at any of the Area Centers (North, South, West), or by calling 704/342-6719 to request copies by mail.

Equal Opportunity/Affirmative Action

In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, and Sections 503 and 504 of the Rehabilitation Act of 1973, Central Piedmont Community College does not discriminate on the basis of age, color, ethnic or national origin, handicap, military service, race, religion, or sex in its administration of education policies, programs, or activities; its admissions policies; scholarship and loan programs; or employment. Inquiries or complaints should be directed to the Assistant to the President, Room 301, Terrell Administration Building, 704/342-5931.

Open Door Policy

CPCC has an open-door admission policy for all applicants who are high school graduates or who are at least 18 years of age.

Admission to the College is open without regard to race, creed, handicap, national origin, sex, or age to any student who meets the graduation or age standard.

Some degree programs have specific requirements for admission. These requirements are available from the Department Head or a Program Counselor.

Tuition

Tuition is set by the North Carolina State Board of Community Colleges and is subject to change without notice.

CPCC is an equal opportunity institution.
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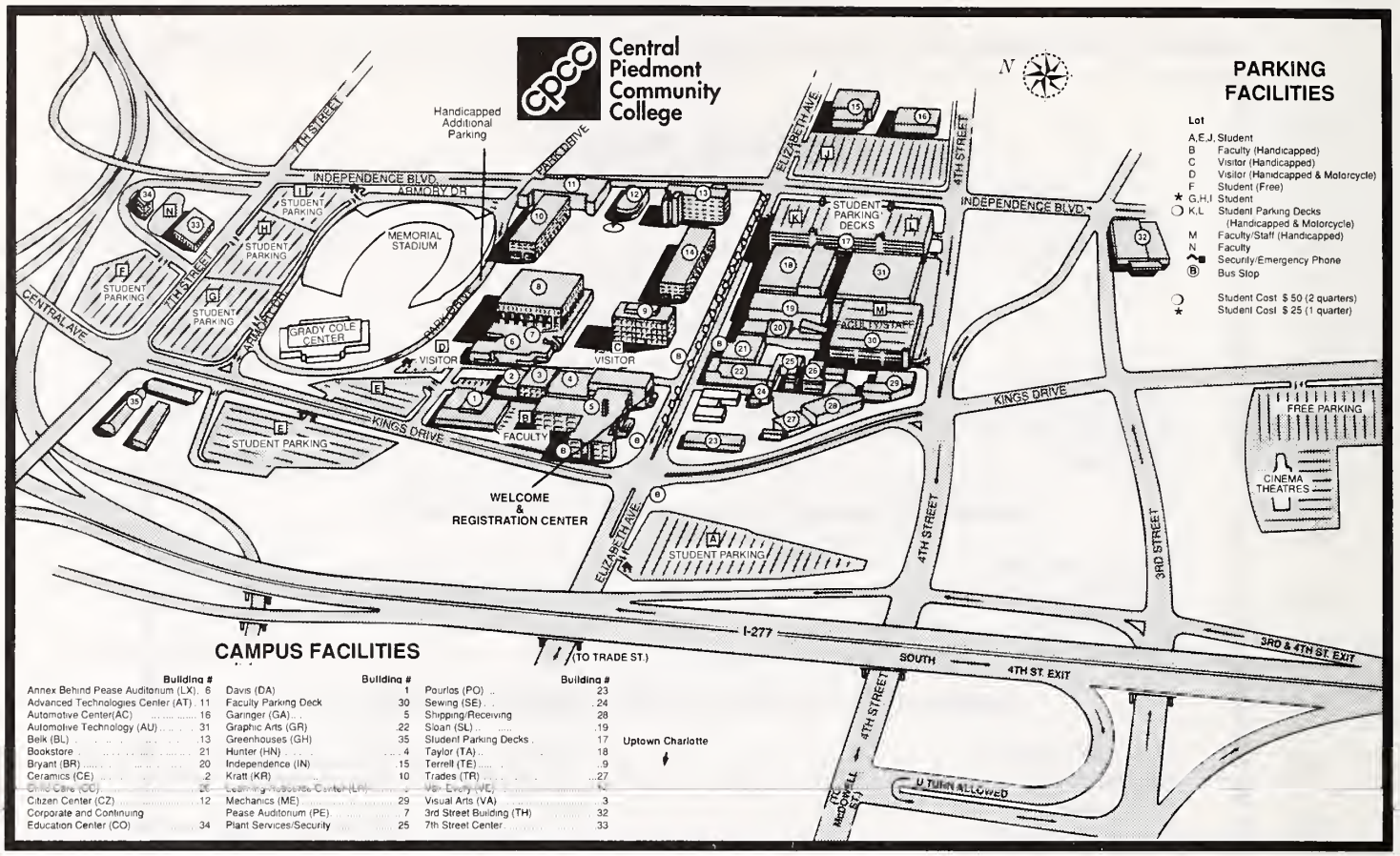

Parking Instructions

1. Bring at least 2 quarters: you will need them to get out of the lot (except Cinema Theatre Lot and Lot F).
2. Make sure your parking permit is displayed as follows:
   Students: Left rear bumper or window
   Employees: Right rear bumper or window
3. Park only within lined spaces and only in the type of lot designated by your permit.
4. Parking in a handicapped parking place without a handicapped placard (permit) is illegal. Violators will receive a $100 City of Charlotte ticket. If you are either temporarily or permanently handicapped and you need a placard, contact the NC Division of Motor Vehicles for an application.
5. Temporary Permits: Before parking, any person needing a temporary permit should proceed directly to the Security Office (#25 on the map) where they may obtain a temporary parking permit and, when necessary, receive directions to the nearest available parking.
6. For emergency notification purposes, students may register their vehicle with the Security Office.

From Charlotte Airport: Exit Airport, left lane, to I-85 N. Take exit right to Hwy. 16 (Downtown) at mile 36. Take I-77 S. Take exit 10-B (Trade, 5th., Downtown). Stay on Trade Street through town. Trade becomes Elizabeth Ave.
From Hickory: Hwy. 16 S. Join I-77 S. Take exit 10-B (Trade, 5th St., Downtown). Stay on Trade Street through town. Trade becomes Elizabeth Ave.
From Gastonia: I-85 N. Take exit right Hwy. 16 (Downtown) at mile 36. Take I-77 S. Take right loop exit 10-B (Trade, 5th St., Downtown). Stay on Trade Street through town. Trade becomes Elizabeth Ave.
From Statesville: I-77. Take exit 10-B (Trade Street). Stay on Trade Street through town. Trade becomes Elizabeth Ave.
From Concord: I-85 S. Take right exit 38, immediate left (to I-77 S. Columbia). From I-77, take exit 10-B (Trade Street). Stay on Trade Street through town. Trade becomes Elizabeth Ave.
From Monroe: Hwy. 74 N. (Independence Blvd.) right lane. Turn right on 4th St. for student parking deck entrance.
From Rock Hill: I-77 N. Exit right 10-B (Trade, 5th St., Downtown). Stay on Trade Street through town. Trade becomes Elizabeth Ave.

Mission

Mission Statement

Central Piedmont Community College

Purpose

Central Piedmont Community College is an innovative and comprehensive public two-year college with a mission to (1) advance the life-long educational development of adults consistent with their needs, interests, abilities, and efforts, and (2) strengthen the economic, social, and cultural life in the Charlotte-Mecklenburg region of North Carolina.

The College accomplishes this purpose by providing high-quality, flexible educational programs and services which are academically, geographically, and financially accessible, and which meet individual and community needs. This purpose requires a fundamental commitment to teaching excellence and a supportive, caring student environment.

History

In 1963, Mecklenburg College and the Central Industrial Education Center were merged to establish Central Piedmont Community College, one the first of the 58 colleges in the NC Community College System. The substantial increase in the education and training needs of the community since 1963 have required commensurate expansion of the College's education programs and facilities.

In 1963, there were 23 degree and diploma programs; now there are more than 70, along with a comprehensive literacy program and an extensive array of corporate and continuing education offerings. In 1963, the College occupied the structures formerly used by Charlotte's Central High School; now there is a 35-acre Central Campus uptown, and classes are also offered at three Area Centers and at more than 200 other sites in the county. Recognizing that the Central Campus is experiencing maximum utilization, the College trustees in 1989 authorized the development of comprehensive campuses in three areas of Mecklenburg County to accommodate the ever increasing needs of the burgeoning Charlotte-Mecklenburg community.

CPCC's standing among institutions of higher learning has kept pace with the development of its programs and facilities. It was fully accredited to award associate degrees, diplomas, and certificates in 1969 by the Commission on Colleges of the Southern Association of Colleges and Schools. Today, many of its programs have special accreditation as well. In 1969, it became a member of the League for Innovation in Community Colleges, and has been identified as one of the top five of the nation's two-year colleges in teaching excellence.

The Educational Vision Of CPCC

The CPCC community envisions a future for this growing metropolitan area where there is a strong sense of community and life is rewarding — a future built upon the full participation and success of all citizens and the best possible use of human, financial, and natural resources:

"We will take a vigorous leadership role in identifying and addressing the issues which are pivotal in making this vision a reality, for we recognize that our present and future are closely entwined with the health and vitality of the greater Charlotte-Mecklenburg region.

"Central to our effort is maintaining excellence as we adapt our comprehensive programs and services to meet the educational needs of a constantly changing, technically advanced, interdependent, and complex world. More than ever before, students need advanced communication and computation skills and the mental receptiveness to acquire and apply knowledge throughout their lives. They also need to develop attitudes which support personal development and ethical understandings which will build community, both regional and global. CPCC's leadership role requires us to explore new academic and administrative paths in the way we educate and support our students. As we grow and change, we will reflect on our efforts and demonstrate accountability for the proper and wise use of resources. We will pursue new and better ways to assess student learning and experience so that both we and our students can improve our effectiveness.

"CPCC's educational vision will be realized in an increasingly diverse community and world. Although diversity presents many challenges, we perceive diversity as a strength. Our students mirror the community, coming to us with differences in educational preparedness and intent, demographic and socio-economic backgrounds, and cultural/ethnic influences. In honoring our commitment to the open-door concept, we are determined to provide the appropriate support which gives meaning to access.

"We realize we cannot achieve this vision alone; partnerships with other institutions, in our area and beyond, are critical factors in our success. We believe that building a teaching and learning community 'in its broadest and best sense, encompasses a concern for the whole, for integration and collaboration, for openness and integrity, for inclusiveness and self-renewal.'"
**AACJC Commission on the Future of Community Colleges*

Functional Areas

To carry out CPCC's mission, the College provides educational programs and services in the following areas:

Business, Health, and Technology Programs

The cornerstone of the Community College System in North Carolina is the preparation of students for a first career, career change, and career advancement to meet individual goals and regional needs. The College provides vocational and technical programs in a broad range of occupational areas. Two-year associate degrees and shorter term diploma and certificate programs are offered. In support of these programs, the College will continue to form major partnerships with business and industry, fueled by the advances in technology.

Business, Health, and Technology graduates develop marketable employment skills and college-level academic skills. In some cases, these degree programs and classes are transferable to four-year institutions. Non-degree seeking students reach other career goals such as updating job skills, career advancement, and re-entry into the work force with marketable skills.

Transfer Programs

From its inception, the College has provided the first two years of study in the arts and sciences and pre-professional fields for those students who wish to transfer to four-year colleges with junior status. Students are able to transfer courses or an associate degree to four-year colleges and have the background and skills to succeed in their further studies. Graduates have a foundation in their areas of specialization,

have college-level academic skills, and have successfully completed the general education core curriculum.

Basic Skills Programs

Expanding higher education opportunities to populations previously underserved was a founding principle of the community college movement. This open-door policy mandated basic skills programs for underprepared students.

Adult basic education programs provide basic literacy instruction and functional living skills. Adult high school and GED programs assist high school drop-outs and adults in completing high school. Developmental education provides classes for high school graduates who lack college skills. Although students in these programs have very diverse goals and many students stop short of entry into college-level programs, all basic skills programs are designed to provide the necessary skills and confidence to be successful in the next level of education.

Corporate and Continuing Education

The economic development of the Charlotte-Mecklenburg region is the major thrust of corporate and continuing education. The College provides programs and services specifically designed to meet the training and re-training needs of business and industry and other area organizations, as well as meeting individual career goals for the general adult population. The formation of dynamic partnerships with community organizations and business and industry is often a critical component in meeting these needs.

The College also provides programs and services for the general adult population which stress life-long learning in the areas of academic, cultural, social, recreational, and personal development.

Business and industry and other community organizations receive assistance in identifying their training needs and in developing flexible programs and services to meet these needs.

Community Service

Central Piedmont's community service programs are widely known for their responsiveness and high quality in the Charlotte-Mecklenburg region. The College provides a wide range of cultural and artistic events, speakers, professional and technical assistance, and civic education, as well as the use of College facilities.

Student Development and Support

The diversity of the student body has made the student development and support area more critical than ever. The College provides services for recruitment and enrollment, for academic advising, for career and personal counseling, for student activities, and for special populations including high risk students. The faculty plays a supportive role in these endeavors.

Students receive timely and accurate information about College programs and services and receive assistance in their academic, career, and personal development. The degree to which student support services are effective has a major impact on student success.

Instructional Development and Support

CPCC is a leader among community colleges in instructional development and support. Experimentation and innovation in instruction and the use of alternative instructional delivery systems remain a major focus.

The College provides support for instructors to experiment with non-traditional modes of teaching and learning through classroom research, through the use of technology incorporated into the classroom, and through alternative delivery systems and scheduling. The instructional support area provides library, media, and learning laboratory services which give support to instructors and students to enhance the teaching and learning process.

Administrative Support

CPCC administration provides effective leadership by setting the tone and direction and by granting employees the authority and resources to carry out their duties.

The College efficiently and effectively expends its resources and is committed to maintaining a leadership role in its utilization of personnel and facilities. The College provides the organizational support areas of institutional research and planning, staff and resource development, and marketing and community relations. Effective administrative processes allow the College to focus on its primary mission of providing educational programs and services.

Institutional Values

Shared values and clear expectations affect how well CPCC succeeds in accomplishing its mission. Based upon this belief, we hold the following institutional values:

• ***Worth and Dignity of the Individual***

"We believe that each person is important. We appreciate the diversity in the students we serve and in ourselves. We are committed to the policies of equal opportunity and affirmative action for employees. We treat others with respect and fairness."

• ***Individual Growth and Development***

"We value the talent and abilities of our faculty and staff. We try to bring out the best in our students and ourselves. We believe that meaningful and productive work encourages individual initiative and offers fulfillment. We assist student growth toward productive citizenship, self-direction, and personal responsibility. We encourage professional development and growth for all employees."

• ***Accessibility***

"We recognize that many diverse barriers hinder student access to educational opportunities. We are committed to recruit and provide services to populations traditionally underserved by higher education because of these barriers. In this endeavor, innovation and technology play key roles."

• ***Excellence***

"We value a job well done and believe that each individual strives for excellence. We aim for the highest level of professionalism, competence, and productivity as standards for our college. We aim for responsible participation and high achievement as standards for our students."

• ***Innovation***

"We value the flexibility and diversity of our human resources and realize that there are varied approaches in carrying out our mission. We promote innovation and responsible experimentation."

• ***Community***

"We believe that a strong and vibrant community can only be built on the full participation and success of all of its citizens within a healthy natural environment. This concept encompass-

es our local community and the larger state, national, and global communities. We value relationships with other institutions in our region and beyond and recognize the need to work together and avoid unnecessary duplication of effort in our common goal to reach the total population."

• ***Accountability***

"We recognize that we hold the institution in trust for the citizens of Charlotte-Mecklenburg, serving as stewards for our human, financial, and physical resources. We are accountable for our use of these resources to reach our mission. We document our progress in an on-going program of institutional effectiveness and use the results of assessment to improve programs and services."

Accreditation

Central Piedmont Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees, diplomas, and certificates, as well as by the following.

American Association of Medical Assisting: medical assisting program

American Dental Association Commission on Dental Accreditation: dental assisting and dental hygiene programs

American Medical Association Committee on Allied Health Education and Accreditation: medical assisting , medical record technology, and respiratory care technology programs

American Medical Record Association: medical record technology program

American Physical Therapy Association Commission on Accreditation in Physical Therapy Education: physical therapist assistant program

Joint Review Committee for Respiratory Therapy Eduction: respiratory care program

National Automotive Technician Education Foundation: automotive technology and automotive service technician programs

National Board for Certified Counselors: human services associate courses

North Carolina State Board of Community Colleges

North Carolina State Board of Nursing: associate degree nursing and licensed practical nursing programs

Technology Accreditation Commission of Accreditation Board for Engineering and Technology: architectural technology, civil engineering technology, computer engineering technology, electrical engineering technology, electronics engineering technology, manufacturing engineering technology, and mechanical engineering technology programs

Memberships

Central Piedmont Community College is a member of:
American Association of Community and Junior Colleges
American Council on Education
American Society for Engineering Education
League for Innovation in the Community College
North Carolina Association of Colleges and Universities
North Carolina Association of Junior Colleges
Southern Association of Colleges and Schools

Consortium: Charlotte Area

CPCC is a member of the Charlotte Area Educational Consortium which includes:

Barber-Scotia College, Concord, NC
Belmont Abbey College, Belmont, NC
Davidson College, Davidson, NC
Gaston College, Dallas, NC
Johnson C. Smith University, Charlotte, NC
Queens College, Charlotte, NC
Wingate College, Wingate, NC
Winthrop College, Rock Hill, SC
York Technical College, Rock Hill, SC

Among other Consortium activities is a cross-registration program that enables students to take certain courses at Consortium schools that are not offered at CPCC.

For information, call 704/342-6484.

Servicemembers Opportunity Colleges (SOC)

CPCC is a member of SOC, a consortium of national higher education associations with more than 750 institutional members. The consortium functions in cooperation with the Department of Defense (DOD), the Military Services, the National Guard Bureau, and the Coast Guard to help meet the voluntary higher education needs of Service members.

Information is available by calling the SOC Counselor at 704/342-6975.

CPCC Foundation, Inc.

The CPCC Foundation solicits contributions and establishes memorials from individuals and corporations for student scholarships and endowments, furniture and equipment, recognition awards and limited fringe benefits for faculty and staff, and many other varied purposes which are not covered by other funding sources. The Foundation also enables the College to meet critical funding needs, frequently on an emergency basis.

All contributions made to Central Piedmont Community College should be directed to the CPCC Foundation, a tax exempt 501C(3) non-profit Corporation, operating exclusively for the benefit of the College and CPCC students.

Correspondence should be sent to:

The CPCC Foundation, Inc.
Post Office Box 35009
Charlotte, NC 28235-50019

For more information, call (704) 342-6869.

Facilities

Facilities

The College is supported by state, federal and local funds to provide instruction, equipment, and laboratories for students at low tuition. CPCC's classes are held on the 35-acre Central Campus, three Area Centers, and at over 200 neighborhood high schools, churches, office buildings, community centers, and other locations.

Area Centers

• NORTH CENTER
704/875-8360
11930 Verhoff Drive
Huntersville

• SOUTH CENTER
704/ 847-1477
Highway 51/Alexander Rd.
Matthews

• WEST CENTER
704/342-6658
2615 Freedom Drive
Charlotte

At any of the three Area Centers, students can register for classes, pay tuition, buy books, attend classes and (depending on the center) do lab work in accounting, business, advancement studies, and computer science. Each center also has a complete library of telecourses and audiocourses.

Classes at nearby high schools, churches, community centers and other locations in the neighborhood are supported and coordinated through the Area Centers.

Central Campus

Elizabeth Avenue and Kings Drive, Charlotte

The 35-acre Central Campus houses classrooms, laboratories, studios, specialized shop areas, a learning resources center, bookstore, snack center, and student parking areas.

Advanced Technologies Center

A "world class" Advanced Technologies Center is located on the Central Campus and is dedicated to the economic development of the community. It provides training, upgrading, and retraining opportunities for the local work force, including teachers, managers, and supervisors.

The ATC is a three-story, 63,000 square foot facility that houses major partnerships with business and industry. Millions of dollars worth of the latest hardware and software have been provided by these partners. This gives both full- and part-time students hands-on experience with full-scale equipment as they develop skills appropriate for today's future-oriented workplace.

Within the Advanced Technologies Center, instruction is conducted in Accounting, Business Administration, Computer Aided Design, Computer Aided Manufacturing, Computer and Office Information Systems, Computer Engineering Technology, Computer Integrated Manufacturing, Computer Systems Maintenance, Electrical and Electronics Engineering Technology, Flexible Manufacturing Systems, Fluid Power, Graphic Communications, Horticulture Technology, Interior Design, Laser/Electro-Optics, Machine Tool, Manufacturing Engineering Technology, Mechanical Engineering Technology, Mechanical Testing, Networking, Quality Assurance, Statistical Process Control, and other technologies.

Learning Resources Center

(The Richard H. Hagemeyer Learning Resources Center)

The Learning Resources Center supports the total instructional program at CPCC. Information services and instructional production is available via cable and closed circuit television, TVRO (television receive only) classes, teleconferencing, radio, two-way classrooms, microcomputers and modules using slides, films, programmed materials, books and periodicals. Combinations of the above are possible through on-site equipment, facilities, and professional expertise.

Auditorium

(The J. Norman Pease Auditorium)

- Pease Auditorium, located within the Leaming Resources Center, seats 440. It has a theater stage, sound and lighting equipment, and accommodates classes, theater productions, concerts, lectures, and meetings.

Bookstore

(The Powell E. Majors Bookstore)

- The Bookstore has books, supplies, and other course-related items needed by students. Books not in stock can be special ordered. In addition, the Bookstore carries CPCC-imprinted apparel, greeting cards, magazines, candy and snacks, and various other items
- A copy machine for student use at $0.10 per page is located in the Bookstore.
- Used books in good condition are purchased by the Bookstore during the last week of each quarter.
- With the exception of holidays, the Bookstore is open Monday through Thursday, 9 a.m.-7:30 p.m.; Friday, 9 a.m.-3 p.m. Extended Bookstore hours are scheduled at the beginning of each quarter to accommodate peak traffic.
- For more information, call (704) 342-6587 or 342-6649.

Center for Automotive Technology

The Center for Automotive Technology, completed in September 1991, is recognized as one of the most up-to-date automotive training facilities in the Southeastern United States. This 38,000 square foot building, located on the Central Campus, was designed to meet the special teaching-learning needs of Automotive Technology and Automotive Body Repair.

The upper floor, designed for all aspects of automotive repair in Automotive Technology, can accommodate as many as 150 students at a time. It contains an 18-bay service shop, two vehicle demonstration labs complete with car lifts, an electrical-fuel lab, a transmission rebuilding lab, and an engine rebuilding lab.

The ground floor houses two large, well-designed Automotive Body Repair laboratories for body repair and painting. The repair area can provide simultaneous repair of at least fourteen cars at a time. The paint area consists of two state-of-the-art, heated, down-draft paint booths and one standard cross-draft paint booth. These booths allow students to work with the latest automotive paints in a safe, controlled environment.

Graphic Communications Facility

The newly-refurbished Graphic Communications facility on the Central Campus is totally dedicated to Graphic Arts and Graphic Arts Management instruction for the printing, packaging, and publishing industry. Located in the heart of a regional printing area, students are close to local industry for guest speakers, industrial tours, and employment opportunities. Graphic Arts employers serve on an active advisory committee which ensures a strong curriculum reflecting current trends and technology.

The Graphic Communications instructional area includes labs for desktop publishing, copy preparation and film assembly, process photography, proofing and platemaking, and offset press operation. Newly-created instructional labs have been added in flexographic printing and process screen printing. A 30 seat media-demonstration room, 15 seat conference center, and two private advisement offices highlight a facility designed for curriculum students and industrial training seminars.

Library

- The Library, located within the Learning Resources Center, has a collection of print and non-print materials particularly suited to the objectives and programs of the College. Library resources include: the general book collection, a collection of minicourses for independent study, reference books, bound and unbound periodicals, pamphlets, microforms, audiovisual materials and CD-ROMS. An open-shelf arrangement is used to stimulate interest and to provide easy access to print and non-print materials.
- Micro-form readers and copy machines are included in the services provided.
- Resources of other libraries in the Charlotte area and statewide are available through inter-library loan.
- DIALOG, an on-line bibliographic retrieval system, provides access to millions of references on over 200 databases in a variety of subject fields.
- An Audio-Visual Center within the library contains materials of all types for study or browsing, along with equipment for viewing or listening.
- A Telecourse Center serves as a lab for courses offered over local television and houses a variety of video programs for use by faculty, staff, and students.
- The Library also features frequent displays on subjects of special interest.
- Library hours are: Monday-Thursday, 7:30 a.m-9 p.m; Friday, 7:30 a.m.-5 p.m.; Saturday, 9 a.m.- 1 p.m.
- Regulations, established for the benefit of all who use the Library, appear in the Student Library Bulletin which is available at the reference desk.

Microcomputer-Tutorial Laboratory

- This laboratory, located the Learning Resources Center, houses microcomputers used with Micro-mate and other programs on hard discs. Student orientation to microcomputers and other tutorial services is provided.

Parking

- The Central Campus includes paved and well-lighted parking areas. For the safety and protection of students, all campus parking decks and lots are regularly patrolled by Charlotte police officers and security personnel on contract with the College.
- Students may use any parking lot except those reserved for faculty, staff, and visitors. Access to student parking areas is controlled by "free-in / pay out" gates which operate automatically.
- The cost of parking is determined by the distance from Central Campus: Nearby decks / lots, 50c (2 quarters); mid-distance, 25c (1 quarter); farthest, free.
- Parking access cards may be purchased for $20 per quarter at the Cashier's Office where tuition and fees are paid.
- As an additional service to students, all vehicles should be registered each year at fall quarter registration or whenever a student registers for the first time. A bumper sticker is issued, at this time, at no charge.
- A Parking brochure, which explains parking locations and regulations on the Central Campus, is available at the Registration Center, the Admissions Center, and at the Area Centers.

Snack Shack

- A snack center is located on the first floor of the Van Every Building and is open Monday-Thursday, 7 a.m.-7 p.m.; Friday, 7 a.m.-2 p.m. Deli sandwiches, salads, soups, and a wide variety of snacks and beverages is available.

Testing and Assessment Center

The Testing and Assessment Center administers a wide variety of tests for instructional, placement, diagnostic, certification, and special purposes. It also serves as an open, national center for administering the College-Level Examination Program (CLEP).

Tests on classwork are taken within time-frames designated by instructors. By using the Testing and Assessment Center for test administration, class time becomes available for individual conferences, group discussion, and other educational opportunities.

The Center also assists faculty in test development, administration, grading, analysis, and research. As a result, improved student competency is reflected in mastery of measurable instructional objectives.

The Center continues to receive national and international recognition for its piloting, field testing, and use of the innovative Computerized Placement Tests developed by the Educational Testing Service and The College Board. Current experimental programs include GUIDES (a microcomputer-based program for assessment and instruction). Educational professionals from across the United States and Canada call or visit the "model" Testing and Assessment Center frequently.

CPCC plans to continue its involvement in state-of-the-art testing and assessment. On-going growth of computerized assessment is evidenced by the Center's administration of Novell Certification Exams.

For more information, call 704/342-6886.

Welcome Center

The Welcome Center on the Central Campus is a first point of contact by prospective students and visitors for information and materials about CPCC. Located on the second floor of the Garinger Building and accessible by ramp, the Center is open Monday-Thursday 7:30 a.m.-8:30 p.m.; Friday 7:30 a.m.-5:30 p.m.; and Saturday 7:30 a.m.-l:30 p.m.

For information or assistance, call 704/342-6719.

Programs and Services

Programs and Services

Career Exploration Center

The Career Exploration Center provides individual career counseling and testing for new or currently enrolled students who are undecided about career plans and/or college major. The Center also provides career planning courses and workshops each quarter. For students researching a career or Charlotte employer, the Center maintains a career library with over 500 books, directories and catalogs. A computerized career guidance system, SIGIPLUS, can help students examine their present values, interests and skills, and then help them find the careers that closely match their preferences.

Call the Career Exploration Center at 704/342-6463 for more information, or to make an appointment to see a counselor, or to use SIGIPLUS.

Compensatory Education Program

The Compensatory Education Program offers classes in math, community living skills, reading, health, social science, consumer education, and vocational education. The program is designed to assist students in developing as high a level of independence and self-sufficiency as possible.

To be eligible for the program, students must be at least 18 years of age and have documented evidence of a disability that affects learning according to North Carolina program guidelines.

Classes are scheduled quarterly at community agencies, other community sites, and the CPCC Central Campus whenever groups of six or more persons are interested in enrollment. Both day and evening classes can be arranged. Classes are free.

For more information, call the Program Director at 704/342-6033.

Cooperative Education Program

Cooperative Education is an academic program which integrates classroom studies with practical experience in industrial, business and public agency work situations. The work experience constitutes a regular and essential element in the educational process by allowing students to apply their studies in a real work environment.

The Co-Op work experience is concurrent or alternates with academic studies, is a paid work experience, and students receive academic credit for the Co-Op experience. For many CPCC students, Co-Op also provides an extra means of financial support.

• Eligibility

Students are accepted from various programs of study at CPCC (technical, vocational, and college transfer), provided they meet the following general criteria:

1. Be enrolled in an approved CPCC Co-Op curriculum or degree
2. Have a minimum 2.5 GPA (may be higher, depending on department)
3. Successfully complete specific courses pre-selected by faculty
4. Be recommended by the Co-Op faculty coordinator
5. Be approved by the Cooperative Education Office

Note: Enrollment in the Co-Op Program does not guarantee placement for every student.

• Present Position – Co-Op In Place

Students can qualify to receive academic credit if they are already employed and the following general criteria are met:

1. The student must be acquiring significant new skills or knowledge related to the academic field of study, and/or
2. The student must be developing a recently-learned skill or applying recently-learned knowledge related to the academic field of study, and/or
3. The student must be receiving increased levels of responsibility related to the academic field of study, and/or
4. The employer agrees to assist with an evaluation of the student's progress

• Job-Seeking Skills

COE 3100, Introduction to Cooperative Education, is a seminar class designed to give students the "competitive edge." The major areas covered are Resume Development, Company Research Methods, and Interviewing Skills. Completion of COE 3100 is required for some programs of study.

For more information on how to participate as a Co-Op student or a Co-Op employer, contact the Cooperative Education Office, Kratt Hall 321, 704/342-6217.

Counseling Services

Counselors and support staff are available to provide information and assistance in the areas of high school articulation, admissions, GED testing, adult high school completion, orientation to the College and to programs of study, career counseling, international student processing, and graduation certification. Students may be scheduled with counselors on an individual basis or in groups.

Counselors at CPCC also provide personal counseling for students on a time-available basis. Students are referred to appropriate community agencies or resource persons when it is apparent they can be assisted more effectively in that way.

Counselors are also available to the community as consultants.

Drop-In Center

The Drop-In Center on the Central Campus is a place where students can get help from specially trained fellow students.

The Center is open Monday-Thursday, 7:30 a.m.-7:30 p.m., and Friday, 7:30 a.m.-4:30 p.m.

For more information, call the Welcome Center-704/342-6719.

Educational Networks Department

The Educational Networks Department offers a large variety of courses through television, radio, and newspaper at various locations throughout the community. Educational Networks strives to offer quality courses through non-traditional delivery methods in order to meet the needs of students who find it difficult to attend classes on the Central Campus.

Through Educational Networks, traditional classes taught on the Central Campus are simultaneously delivered via interactive television to Area Centers, businesses, and homes. During these telecasts, viewers can interact directly with the instructors and with other students.

Telecourses offered through the Educational Networks

Department are pre-recorded videotaped classes that are shown at specific times on cablevision channels, and are available anytime on request at the Area Centers. Telecourses generally require a minimum number of scheduled meetings with the instructor, and instructors are available by telephone throughout the course to answer questions.

Interactive TV courses and telecourses offered through the Educational Networks Department carry the same credits as their traditional counterparts. Course testing is conducted at the Testing Center on the Central Campus and at Area Centers. The cost of EN courses is the same as for traditional courses.

Because EN courses can reach such large audiences with virtually no limit on class size, they are potentially the most flexible kind of instruction available.

For more information, call 704/342-6943.

First Aid Team

CPCC's first aid team for the Central Campus consists of faculty and staff volunteers. Team members are certified in Standard First Aid and CPR. Two members usually are on duty Monday through Friday, 8:30 a.m.-4 p.m.

To report medical emergencies, call 342-6444.

High School Students at CPCC

Several programs at CPCC encourage Charlotte area high school students to remain in school, and enable them to take courses at CPCC:

- ***The College Experience Program*** provides Charlotte-Mecklenburg School System high school seniors a head start on a college education, advanced vocational preparation, and personal enrichment opportunities. Approved CPCC courses may be taken by students during their senior year as a part of the school day. Courses are taken on the CPCC Central Campus and may give both high school and college credit. College Experience students are regarded by CPCC as any other college student and receive identical treatment. Grade reports are mailed to students and the high school following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records.

  For additional information, call 704/342-6975.

- ***The Concurrent Enrollment Program*** enables qualified students, who are at least 16 years of age and who are enrolled in Charlotte area high schools, to take courses at CPCC for remedial purposes, personal enrichment, or high school or college credit. High school credit for courses taken through Concurrent Enrollment must be approved specifically by the high school principal. Concurrent Enrollment forms may be obtained at high schools, or by request from the Concurrent Enrollment Counselor's office on the Central Campus. Students enrolling in this program must present the signed and approved Concurrent Enrollment form at the time of registration at CPCC. Concurrent Enrollment students are regarded by CPCC as any other college student and receive identical treatment. Grade reports are mailed directly to students following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records.

  For Concurrent Enrollment Forms or additional information, call 704/342-6975.

- ***Dropout Intervention Services*** works with high school dropouts and high risk students identified by surrounding school systems to reinforce their understanding of the critical importance of education. Students are assisted in goal setting and are urged to continue their education. Individual clients are referred to a broad range of supportive services providing a diverse selection of assistance for both educational and human services needs.

  High school dropouts are returned to their home school and/or are assisted into mutually acceptable alternative programs, all of which culminate in completion of at least a high school education. Students are also assisted in direct entry into career, trade and vocational programs leading to meaningful employment. Counseling is provided for students with special needs.

  For additional information, call 704/342-6536 or 342-6975.

- ***Pre-College Services*** works with high school dropouts, possible dropouts, and others in need of specialized additional educational programs. Pre-College Services coordinates the functions of Dropout Intervention, Concurrent Enrollment, the GED Testing Center, Service Members Opportunity Colleges (SOC), provides entry processes and mechanisms, and coordinates dropout prevention between the College and public schools in compliance with North Carolina Senate Bill 184.

Human Resources Development (HRD)

This program helps the unemployed and the underemployed in the Charlotte-Mecklenburg community prepare themselves for the labor market at a level compatible with their skills and abilities. The program also assists students who are interested in obtaining additional education or training necessary to reach their individual career goals.

HRD teaches students how to set short-term and long-range goals. Problem-solving methods practiced in the classroom include conflict resolution that pertains to job-related situations.

HRD students learn the proper methods for completing employment applications and resumes, and they discuss and role-play job interviews.

Classes are available for individuals with special employment interests, such as employment for older adults, changing careers, and needs of the 18-24 year-old population. Other classes focus on specific employment skills through the Bank Teller Training Program and the 10-Key/CRT Training Program.

For more information, call (704) 342 6969.

Job Location & Development Program

The Job Location and Development Program is administered by the Student Employment Center. Students who need to work to support themselves while attending CPCC may use this service and receive job referrals for part-time jobs.

For more information, call 704/342-6551.

Job Training Partnership Act (JTPA) Program

A scholarship program at CPCC is sponsored by the Employment and Training Department of the City of Charlotte through the federal Job Training Partnership Act.

This program serves individuals in need of occupational skills training and who want to obtain this training through a vocational or technical program offered at CPCC. Training must be in a curriculum that, upon completion, offers immediate full-time permanent employment in an area of high occupational demand.

JTPA income guidelines determine eligibility. Applicants who are selected receive tuition, books, supplies, and other support services through JTPA, and attend classes at CPCC on a full-time basis.

For information, call (704) 342-6008.

Minority Recruitment

The CPCC Minority Recruiter works with local schools, churches, civic and business groups, and neighborhood centers to identify prospective students. The Minority Recruiter also coordinates the Fred D. Alexander and the Dr. and Mrs. Spurgeon W. Webber Scholarship Programs.

Students are advised and guided to Central Campus services, such as financial aid, child care, transportation, and tutoring. Contacts with community resources are also arranged.

For more information, call 704/342-6392.

Multi-Skills Center

The Multi-Skills Center provides individualized instruction in general office skills to adults with disabilities that are barriers to employment. The program also emphasizes training in job readiness, human relations, and life skills. Students participate in the six-month training Monday through Friday, four hours each day. Training simulates an office atmosphere in which the instructor is both teacher and office manager.

The Multi-Skills Center serves clients referred by the North Carolina Division of Vocational Rehabilitation. After VR staff establish eligibility through pre-screening, Center staff determines final selection through interviews and client data. Some of the eligibility credentials for program admission that will be considered include a high school diploma or GED certification, minimum eighth-grade reading and math levels, and CPCC's North Carolina residency status. Referrals and selections are conducted throughout the year. Program funding, including tuition and instructional supplies, is provided by the North Carolina Division of Vocational Rehabilitation and CPCC.

For further information, call (704) 342-6037.

Reading Clinic

Students can improve their reading skills with help from the Reading Clinic. Diagnostic and referral services are available, as well as tutoring for those who need basic reading instruction.

For more information, call 704/342-6486.

Special Services

Postsecondary Education Consortium

In 1983, Central Piedmont Community College was invited to join the Southeastern Postsecondary Education Consortium, which is a federally-funded regional program serving the hearing impaired. PEC serves postsecondary institutions in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and Puerto Rico. PEC's purpose is to provide funding to its member institutions so they can expand vocational, technical, and adult education services to persons who are hearing impaired.

Special Services Department

The Special Services Department at CPCC provides services to students with disabilities that include, but are not limited to learning impairments, learning disabilities, visual impairments, cerebral palsy, physical disabilities, brain injuries, etc. Students are assisted with admissions, registration, and with accommodations for their disabilities.

CPCC is 98% barrier free. Quarterly meetings are held with physically disabled students to discuss accessibility issues and concerns.

· Admissions and Campus Visit

- Students who have been identified as learning disabled are requested to submit a copy of their psychological report to CPCC's Learning Disabilities Specialist.
- Students with a physical disability are requested to submit a copy of their medical report to the CPCC Counselor for the Disabled.
- Students with a hearing impairment are requested to submit a copy of their Audiological Report and Individual Written Rehabilitation Plan to the CPCC Counselor for the Hearing Impaired.

Before students with special needs make a final decision to enroll at CPCC, the College recommends that they visit the Central Campus to meet the specially-assigned counselors and support personnel in the Special Services Department, to meet and talk with other students, and to investigate arrangements such as housing.

· Counseling Services

Counseling is a most important component in overall student success. The Special Services Counselor provides personal, social, vocational, and educational counseling. The Counselor is the main referral point for other services, for assisting instructors in accommodating individual student needs, and for determining a student's need for tutorial and related services

· Interpreting Services

The most critical component for any program for the hearing impaired is interpreting services. The success of a student's educational experience is greatly dependent on the quality, availability, and flexibility of interpreting services.

The College employs highly qualified and certified interpreters who are skilled in using American Sign Language. They function as a communication channel between the student and the instructor. Hearing impaired students may also request interpreting services for clubs and organizations supported by the College. Certain reasonable schedule adjustments may be necessary in order to provide interpreting services for all students who need them.

· Parking for Students with Physical Disabilities

There are parking spaces for the handicapped throughout CPCC's Central Campus, and information about their location is available from the Special Services Department. Students must display a handicapped parking card, obtained from the North Carolina Department of Motor Vehicles, in order to identify their vehicles properly when using these spaces.

• Reader/Writer Service

CPCC will provide readers for visually impaired and learning disabled students. These readers will assist students to read textbooks and take tests. Students who cannot take notes because of hearing impairment, learning disability, physical impairment, or any other condition may receive assistance from volunteer note-takers.

• Tutorial Services

Tutorial services are provided as a supplement to regular class work. Students may request a tutor through their counselor in the Special Services Department.

• For More Information

Contact the Special Services Department by calling 704/342-6739.

Student Employment Center

The Student Employment Center helps CPCC students who are seeking employment. Students who are currently enrolled at CPCC may receive referrals for part-time and full-time jobs. Employment opportunities are also available on Central Campus for federally-approved College Work-Study students. Students who have been approved for Work-Study as part of a financial aid award are eligible to interview and be hired in various CPCC departments.

Services are also available for students who are approaching graduation or students who have recently graduated. These students may establish a placement file and request assistance in finding a full-time career position by participating in interviews, receiving career information, as well as resume writing and interviewing assistance.

For more information, call 704/342-6448 or 342-6551.

Student Life Center

The Student Life Center, Van Every 1st Floor, is available to all currently enrolled students for relaxation, recreation, or interaction with student organizations or other extra-curricular activities. This area, open from 8:00 a.m.-8:00 p.m., Monday through Thursday, and 8:00 a.m.-4 p.m. on Fridays, includes the following:

• Athletics, Intramurals, and Open Play

The gymnasium in Taylor Hall is the site of most intramural and intercollegiate athletic programs at CPCC. Sports include basketball, volleyball, badminton, and fencing. This area is available to all currently-registered students for open play (individual or team) and intramurals from 3-5 p.m., Monday through Thursday, and from 2-4 p.m. on Friday. This facility is available only to currently-enrolled students with I.D. cards. Other intramurals and intercollegiate athletics are conducted in golf, tennis, softball, and soccer at appropriate sites. The sports program is coeducational.

For more information, call 704/342-6584.

• Lost and Found

A lost and found service is located in the Student Life Center (Van Every, 1st floor). Any item found on the Central Campus should be brought to this office promptly where it will be logged in. If no one claims the item within that quarter, it is donated to the Drama Department.

To inquire about lost and found items, call 704/342-6584.

• Lounge

The lounge is furnished with comfortable furniture for students to relax, study, converse with friends or watch television. There is a 45" screen television and regular programming purchased from college TV markets such as NCTV(National College Television Network). First run movies are also available on a regular basis. There are also many board games available, such as chess, checkers, Scrabble, backgammon, Monopoly, Yahtzee and Uno.

• Student Association/Student Government/Social & Cultural Events

The Student Association, of which every registered CPCC student is a member, consists of a Student Government Association and 17 Curriculum Program Committees (CPCs). Program areas elect students to the CPCs and, in turn, members of the CPCs are appointed to the SGA. This is a unique concept of student representation and every interested student is urged to participate. A copy of the Student Association Constitution and other information about the Student Association is available in the Student Life Center (Van Every, Room 104 or 106).

The Department of Student Life, working with the Student Government Association, plans and sponsors various social and cultural events during the year. Included in these activities are concerts, lectures, field days, athletic events, music and drama productions.

For more information, come to Van Every, Room 106 or call 704/342-6584 or 6751.

• Student Organizations

The College encourages participation by students in all areas of College life. Student organizations are chartered by the Student Association and are aided in the planning of their activities by the Director of Student Life, and in the financing of those activities by the Student Association. These organizations included service organizations, special interest groups, athletic clubs, honor societies, and professional organizations.
A list of organizations can be obtained in the Student Life Center (Van Every, Room 104 or 106).

• Student Publications

Student Life utilizes a variety of communication methods, including a Student Newsletter and The Spark, a student newspaper (five issues quarterly), to keep student informed about College activities. The Literary Magazine, Keystone, published annually, serves as a showcase for creative writing and graphics. The Student Handbook is also produced by Student Publications.

Further information is available in the Student Life Center (Van Every, Room 106) - 704/342-6665 or 6584.

Student Support Services and Talent Search

The two TRIO programs at CPCC are **Educational Talent Search** and **Student Support Services.** Both programs have a long history of service to low income and potential first generation college students through the federally-funded Special Programs for Students from Disadvantaged Backgrounds.

Special Programs for Students from Disadvantaged Backgrounds incorporates seven federally-funded programs for disadvantaged students: Talent Search, Upward Bound, Student Support Services, Educational Opportunity Centers, Training Programs for Staff and Leadership Personnel, Ronald E. McNair Post-Baccalaureate Achievement Program, and Special Child Care Services for Disadvantaged College Services. The term "TRIO Programs" is derived from the three original programs established in the late 1960's and now refers to the entire group of programs.

The purpose of TRIO programs is to prepare disadvantaged persons (low income and/or first generation—a child whose parents never graduated from a 4-year college—or who is physically handicapped) for successful entry, retention, and completion of postsecondary education. In general, these programs target students with potential for academic success and provide them with encouragement, support, and assistance. Program services are designed to improve academic performance, increase student motivation, and facilitate transitions from one level of education to the next.

For more information, call 704/342-6961.

Wider Opportunities for Women

The Wider Opportunities for Women program provides eligible students with assistance for books and supplies, transportation, and child care. Awards are based on the availability of funds. To qualify, a student must--

–Be one of the following:

Single Parent:
- unmarried or legally separated from a spouse
- have custody or joint custody of minor child(ren)

Homemaker:
- An adult whose primary responsibility is for the care of the home and family, and who has diminished marketable skills

Displaced Homemaker:
- A homemaker who, because of death, divorce, separation, or a disabled spouse, must prepare for paid employment

Seeking Non-Traditional Job Training:
- An adult who wishes to seek employment in an occupation which is traditionally stereotyped by sex

–Have a high school diploma or a GED

–Declare a curriculum program at CPCC with either a technology or vocational program code NOTE: Students enrolled in the college transfer program do not qualify for assistance from the WOW program

–Complete CPCC's student financial aid application process

–Maintain at least a 2.0 (C) grade point average while enrolled at CPCC

For more information, call 704/342-6532.

Writing Center

The Writing Center is open to all CPCC students who need help with writing, whether they are taking English courses or not.

The staff offers tutoring services, as well as individualized instruction in using the Center's twenty-two word processors. Students are welcome to use these word processors to do their term papers or any other writing assignments.

The Center opens at 7:30 a.m. weekdays for a total of 50 hours a week, including two evenings. Students can come in on a walk-in basis or they can make appointments with the Writing Center staff.

For more information, call 704/342-6474.

Academic Calendar

Academic Calendar

Summer 1992 - Winter 1995

	S	M	T	W	T	F	S
June '92		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
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July				1	2	3	4
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Aug							1
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Nov	1	2	3	4	5	6	7
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Jan '93						1	2
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Summer Quarter 1992	Classes Begin.....Thurs, June 11
	Independence Day Holiday .....Fri-Sat, July 3-4
	Classes End .....Thurs, Aug 13
	Saturday Only Classes End.....Sat. Aug 15
First Short Session:	Classes Begin.....Thurs, June 11
	Classes End .....Tues, July 14
Second Short Session:	Classes Begin .....Wed, July 15
	Classes End .....Fri, Aug 14
Fall Quarter 1992	Labor Day .....Mon, Sept 7
	Classes Begin.....Tues, Sept 8
	Classes End.....Tues, Nov 24
	Holiday.....Fri-Sun, Nov 26-29
Winter Quarter 1992-93	Classes Begin .....Tues, Dec 1
	Holiday.....Mon, Dec 21-Sun, Jan 3
	Classes Resume .....Mon, Jan 4
	Martin Luther King Holiday.....Mon, Jan 18
	Classes End .....Wed, Mar 3
Spring Quarter 1993	Classes Begin .....Tues, Mar 9
	Holiday .....Fri-Mon, Apr 9-12
	Classes End.....Thurs, May 27
Summer Quarter 1993	Classes Begin.....Wed, June 9
	Independence Day Holiday .....Mon, July 5
	Classes End .....Thurs, Aug 12
	Saturday Only Classes End.....Sat, Aug 14
First Short Session:	Classes Begin.....Wed, June 9
	Classes End .....Mon, July 12
Second Short Session:	Classes Begin .....Tues, July 13
	Classes End .....Fri, Aug 13

CPCC is closed on holidays listed above.

Advisement Day and Registration dates for each quarter will be announced in the CPCC Class Schedule.

For additional information, call the CPCC Welcome Center - 704/342-6719.

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Academic Calendar

Summer 1992 - Winter 1995

Fall Quarter 1993	Labor Day	Mon, Sept 6
	Classes Begin	Tues, Sept 7
	Classes End	Tues, Nov 23
	Holiday	Thurs-Sun, Nov 25-28
Winter Quarter 1993-94	Classes Begin	Wed, Dec 1
	Holiday	Wed, Dec 22-Sun, Jan 2
	Classes Resume	Mon, Jan 3
	Martin Luther King Holiday	Mon, Jan 17
	Classes End	Tues, Mar 1
Spring Quarter 1994	Clases Begin	Tues, Mar 8
	Holiday	Fri-Mon, Apr 1-4
	Classes End	Thurs, May 26
Summer Quarter 1994	Classes Begin	Wed, June 8
	Independence Day Holiday	Mon, July 4
	Classes End	Thur, Aug 11
First Short Session:	Classes Begin	Wed, June 8
	Classes End	Mon, July 11
Second Short Session:	Classes Begin	Tues, July 12
	Classes End	Fri, Aug 12
Fall Quarter 1994	Labor Day	Mon, Sept 5
	Classes Begin	Tues, Sept 6
	Classes End	Tues, Nov 22
	Holiday	Thurs-Sun, Nov 24-27
Winter Quarter 1994-95	Classes Begin	Thurs, Dec 1
	Holiday	Wed, Dec 21-Sun, Jan 1
	Classes Resume	Mon, Jan 2
	Martin Luther King Holiday	Mon, Jan 16
	Classes End	Wed, Mar 1

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Jan '95

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Admissions

Admissions Quick Reference

Adult Basic Literacy Education
(ABLE: For students who cannot read, write or compute at an adult level) 704/342-6716, Sloan Building Suite J. See F - page 25, also see

Adult Basic Education
(ABE: Grades 1-9) 704/342-6717, Sloan Building Suite J. See page E - page 25, also see

Compensatory Education
(For students with special needs) 704/342-6033, Sloan Building 238. See page 14.

Degree/Diploma/Certificate Programs, Career Undecided Students, and Program Changes
704/342-6719, Welcome Center, Garinger Building 2nd Floor, or any Area Center. Program Changes are processed by the Admissions Center, Central Campus, 704/342-6687. See A, B, or C - this page below and page 25.

Educational Talent Search and Student Support Services
704/342-6393, Learning Resources Center. See page 18.

High School Programs
- College Experience - 704/342-6975, Terrell 204. See page 14.
- Completion/Diploma (Grades 10-12) - 704/342-6778, Terrell 206. See page D 1 - page 25, also see
- Concurrent Enrollment - 704/342-6975, Terrell 204. See page 14.
- Drop-Out Intervention - 704/342-6536, Terrell 203. See page 14.
- G.E.D. - 704/342-6949, Terrell 202. See D 2 - page 25, also see

Human Resources Development
- Bank Teller Training - 704/342-6969, Sloan 264. See page 15.
- Self-Directed Job Search - 704/342-6969, Sloan 263. See page 15.

International Students Admissions
- F-1 Visas - 704/342-6609, Terrell 224. See I, page26.
- B-2 Visas - 704/342-6609, Terrell 224. See I, page 26.
- Legal Residents with Permanent Visas - 704/342-6609, Terrell 224. See I, page 26.
- Limited English Proficient - 704/342-6305, ESL Lab, Van Every 302. See page 24-25.

J.T.P.A.
(Job Training Partnership Act) - 704/342-6008, Learning Resources Center 221. See page 15.

Miscellaneous Special Interest Courses
See pages H - page 25.

Multi-Skills Center
(For students with special needs) - 704/342-6037, Taylor 101. See page 16.

Special Services
(Hearing, Learning, Physical, Sight Disabilities) 704/342-6937, Terrell 509. See page 16.

Veteran and Military Affairs
704/342-6785, Terrell 216A. See page 31.

Wider Opportunities for Women
(Single Parents, Non-Traditional Employment, Displaced Homemakers) - 704/342-6532, TE 220. See page 18.

Tours of Central Campus for Prospective Students

The College encourages individuals and groups to visit the Central Campus for a tour with a student guide from the Student Life Department. When possible, faculty will explain their instructional areas and laboratories in response to special interests indicated by tour participants at the time the tour was scheduled.

To arrange a tour, call 704/342-6584.

Admissions

Central Piedmont Community College follows an "open door" policy which welcomes all students without regard to color, creed, handicap, race, national origin, or sex. Admission to the College, however, does not mean that students will be admitted immediately to a program with specified admissions requirements.

Steps in admissions vary, depending on what a student plans to accomplish at CPCC. STUDENTS ARE ENCOURAGED TO CONTACT THE COLLEGE EARLY IN ORDER TO COMPLETE THE STEPS OUTLINED HERE BEFORE THE REGISTRATION PERIOD BEGINS. Questions should be directed to the Welcome Center, Garinger Building 2nd Floor, 704/342-6719 (Mailing address: CPCC, P.O. Box 35009-5009, Charlotte, NC 28235).

*A. **Students who plan to enter a degree, diploma, or certificate program*** need to complete these steps ***before*** registration begins:

1. ***Complete a CPCC Admissions Form*** — available at the Welcome Center, the Admissions Center, at any Area Center, or by mail. On the back of the Admissions Form, indicate the program you plan to enter. **NOTE:** Students who plan to transfer to a four-year college or university after one or two years at CPCC should indicate either the Associate in Arts, Associate in Fine Arts, or Associate in Science Degree program.
2. Have ***official transcripts*** of all high school, pre-college, and college-level work sent from each school previously attended. These should be directed to: Admissions, CPCC, P.O. Box 35009, Charlotte, NC 28235-5009. The name that you are currently using should appear on each transcript.
   All degree programs, health technology diploma programs, and most other diploma programs require high school graduation or the equivalent. The high school graduation requirement may be met with a high school diploma or by possession of a high school credential awarded on the basis of GED test results, or by possession of an Adult High School Diploma.
   CPCC accepts credits from other accredited colleges and technical institutions. Only courses applicable to the student's program of study with grades of "C" or better will be accepted.

3. ***Take placement tests*** — as required for the degree, diploma, or certificate program you plan to enter. Appointments for placement tests are made at the Admissions Center (Terrell Building, 2nd Floor), with the exception of most Health Technology programs, where appointments are made by the Program Counselor. Students who mail in their Admissions Form will receive mailed instructions for scheduling their appointments. Students who complete their Admissions Form at the Welcome Center or at the Admissions Center will receive instructions about placement test appointments at that time.
4. ***Meet with the Program Counselor***— at the specified time for orientation to the College, an overview of the program, placement test results, transfer of credit evaluation, and the recommended list of courses to register for during your first quarter at CPCC. Some meetings are group appointments for students entering the same programs.
5. ***Register for courses.***

B. Students who want to change their programs need to complete the following steps ***before*** registration begins:

1. Get a Change of Program Form at the Admissions Center (Terrell Building 2nd Floor) or telephone 704/342-6904 to start processing.
2. Complete a new CPCC Admissions Form.
3. Take additional placement tests, if required for the new program.
4. Meet with the Program Counselor at the specified time. Some meetings will be group appointments for students entering the same program.
5. Register for courses in the new program.

C. Students who need career/life planning assistance before selecting a program:

1. Get an Admissions Form from the Welcome Center, the Admissions Center, one of the Learning Centers, or request that one be mailed to you. This should be done early and ***before*** the registration period. Indicate "Undecided," instead of a program, on the back of the Admissions Form.
2. Follow steps A2 and A3 above.
3. Meet with the Career/Life Planning Counselor as scheduled. You will receive further instructions about how to proceed at this time. If additional information is needed, call the Admissions Center (704/342-6904).
4. Register for courses after you see your Program Counselor.

D. Students who plan to complete high school (grades 10-12).

CPCC offers the Adult High School Diploma Program (HSD) and the Tests of General Educational Development (GED):

1. The ***Adult High School Diploma (HSD)*** Program leads to an earned diploma granted by the Charlotte/Mecklenburg Board of Education. For graduation, the Board requires four units of English, two units of mathematics, two units of general science and biology, and two units of American and world history, as well as successful completion of the North Carolina Competency Test. Students who have not met each of these requirements enroll for at least one quarter of study in appropriate areas. After one quarter, a standardized test is given. A satisfactory test score earns credit toward graduation for that entire subject. North Carolina Competency Tests are administered on a regular basis. There is no charge for these classes or for the Competency Tests.
   For more information about the Adult High School Diploma Program, call 704/342-6688 or 6864.
2. ***The Tests of General Educational Development (GED).*** GED Testing offers another opportunity for students who have not completed high school. A High School Diploma Equivalency is awarded by the North Carolina Department of Community Colleges after a student passes five individual tests in writing skills (includes a written essay requirement), social studies, science, literature and arts, and mathematics. A pre-test is used to evaluate performance levels and instructional needs before testing. GED classes are available on the Central Campus and at several off-Campus locations. The off-Campus classes are self-paced and allow students to progress at their own learning rates and on schedules which best suit individual needs. There is no charge for pre-testing or GED classes; there is a $7.50 fee for final GED testing.
   For more information, call 704/342-6949.

E. Students who plan to complete grades 1-9: Adult Basic Education (ABE) is available for students whose schooling stopped short of the ninth grade. ABE provides instruction in basic reading and mathematics. Upon completion of the ABE program, students may enter the Adult High School Diploma Program. There is no charge for these classes.
For more information, call 704/342-6716.

F. Adult students who plan to learn basic skills in reading and mathematics:

The ***Adult Basic Literacy Education (ABLE)*** program is located at community sites. This program offers a new approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, specialized programming, and tutors to teach adults reading and mathematics skills. Instructors guide students through program materials and help with the use of equipment. There is no charge for ABLE instruction.
For more information, call 704/342-6716

English as a Second Language is a program offering courses which enable students to master English as a second language. Students study the customs and traditions of American culture while learning the language. Academic and/or vocational courses may be taken when the student's language proficiency allows. Consult course descriptions with ESL or LEP prefixes.
Call 704/342-6762 or 6716 for more information.

G. Students currently enrolled in Charlotte area high schools who want to take courses at CPCC. For information about the College Experience Program, the Concurrent Enrollment Program, and the Drop-Out Intervention Program, see Admissions Quick Reference on Page 24.

H. Students who do not plan to enter a degree, diploma, or certificate program at CPCC and who want to take courses of special interest:

1. Course descriptions in this catalog list the prerequisites (requirements) that must be met before registering for a course. Please note that ENG 1504 (English Composition I) and certain mathematics courses require placement testing before registration. In these cases, contact the Admissions Center to schedule a placement test appointment (Terrell 2nd Floor, 704/342-6904).
2. Register.

I. International Students: Legal residents with permanent visas (Alien Registration Card holders) are admitted to Central Piedmont Community College in the same manner as native citizens of the United States of America. Legal residents who need English As A Second Language are referred to the ESL Lab, Van Every 302, 704/342-6305 for placement tests and assistance.

International visitors holding B-2 or other visas may enroll for classes of their choice as long as they hold a valid visa. (See paragraph H above).

International students on F-1 Visas who attend CPCC must have a TOEFL (Test of English as a Goreign Language) score of at least 500 before entering a degree or diploma program. When the TOEFL score is below 500, the student is required to take English as a Second Language (ESL) Courses until retesting at CPCC establishes the required proficiency level. Admission at students on F-1 Visas is also governed by the quota established for each country.

Any foreign (non-immigrant) who is admitted to CPCC under an F-1 student visa is urged to purchase medical insurance prior to registration each quarter.

Applications for international student enrollment at CPCC are available in the Office of International Student Admissions, Terrell 224, 704/342-6609.

Registration

The College year consists of four quarters: Fall, Winter, and Spring Quarters (each 11 weeks), and Summer Quarter (9 weeks). (See the Academic Calendar --see page 20.) Summer Quarter is considered the same as other quarters where course offerings are concerned. It also includes two Short Sessions ($4\frac{1}{2}$ weeks) with a limited selection of classes.

Students entering a degree, diploma, or certificate program must complete the admissions process prior to registration.

Students may register from a touch-tone telephone or in person. Registration centers are located on the Central Campus and at the North, South, and West Area Centers. Those wishing to register by telephone will find instructions in the Class Schedule. Some courses conduct registration in class.

Students are encouraged to register as early as possible to avoid the heavy traffic of final registration and to ensure that they obtain a schedule of classes that best meets their needs.

Tuition and Fees

Tuition and Fees

(Subject to change without notice)

Tuition and the Student Publications/Activity Fee must be paid by mail or in person within 48 hours after registration with cash, check, or credit card (MasterCard or Visa).

In-State students *registering for curriculum courses:*
- 14 quarter hours or more: $161.00 per quarter — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 9-13 quarter hours: $7.50 per quarter hour — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 8 quarter hours or less: $7.50 per quarter hour — Tuition 3.00 per quarter — Student Publications/Activity Fee*

In-State students *registering for courses and seminars offered through Corporate and Continuing Education*
- Nominal registration fee (Fee for self-supporting courses is $1.25 per contact hour.)
- $1.00 Student Publications/Activity Fee

In-State students *registering for high school diploma or G.E.D. courses:*
- No tuition or fee

Out-of-State students *registering for curriculum courses:*
- 14 quarter hours or more: $1505.00 per quarter — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 9-13 quarter hours: $107.50 per quarter hour — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 8 quarter hours or less: $107.50 per quarter hour — Tuition 3.00 per quarter — Student Publications/Activity Fee*

Out-of-State students *registering for courses and seminars offered through Corporate and Continuing Education*
- Same as In-State students

Out-of-State students *registering for high school diploma or G.E.D. courses*
- Same as In-State students

Student Publications/Activity Fee

The Student Publications/Activity Fee is used to support the Student Life Center and many co-curricular and extra-curricular programs. Among these are student government, student publications, clubs and organizations, intramural and intercollegiate athletics, educational activities, speakers and entertainers of various kinds.

Refund Policy

Curriculum
- Tuition will be refunded systematically by the College for any class that is canceled by the College.
- All tuition will be refunded for any curriculum class or classes dropped by a student during the registration period or the schedule adjustment period.
- Two-thirds of a student's tuition for a curriculum class or classes will be refunded if the refund is more than $5.00 and if the student totally withdraws from the College (withdraws for all classes) between the end of the schedule adjustment period and the end of the 10th calendar day following the first day of classes.
- A student who has paid the required tuition and fees for a quarter then withdraws from the College before the end of the quarter for reasons that are found excusable by the Dean for Student Development may be allowed credit for unrefunded tuition and fees if the student enrolls during any of the next four calendar quarters and petitions in writing to be allowed such credit.
- When a student, having paid the required tuition and fees for a quarter, dies prior to or on the last day of that quarter, all tuition and fees for that quarter may be refunded to the estate of the deceased.

Continuing Education (Non-Self-Supporting and Self-Supporting Courses and Seminars)
- Registration fees will be refunded systematically by the College for any course or seminar that is canceled by the College.
- In general, no refunds will be given for continuing education courses or seminars from which a student drops or withdraws.

Student Insurance (Optional)

Two kinds of insurance coverage are available to students through CPCC:

Accident Medical Plan

This plan insures students against loss resulting from accidental bodily injury sustained while at the College or while participating in or attending an activity exclusively organized, sponsored, and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays up to $1500 for each accident which may include the costs of medical and surgical treatment, hospital confinement, and the services of a trained nurse during one year from the date of the accident.

Students wishing to have this coverage check the "Yes" box on their Registration Form. Coverage begins when tuition and the $1.50 insurance fee are paid at registration. Coverage stops at the end of the quarter.

More information is available through the Office of the Dean of Student Development - 704/342-6888.

Medical Hospitalization Group Plan

This plan is available to students who are enrolled for six or more credit hours. It provides accidental death benefits, maternity benefits, semi-private room, and major medical coverage up to $3500.

Benefits will be paid in addition to other insurance coverage.

The cost is $44 per quarter or $169 per year. Spouses and unmarried children may be covered for an additional charge. Coverage begins the day that payment is received by the company. Application forms are available through the Office of the Dean of Student Development, Terrell 217

Residence Status

A legal resident of North Carolina is one who has domicile in the State. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment and understand the regulations governing status. The "Stu-

dent Residency Manual" is available for review in the Registration Center. The following regulations cover most situations:

1. Persons 18 years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months preceding enrollment in an institution of higher education in this State.
2. The legal residence of a person under 18 years of age at the time of enrollment in an institution of higher education in this State is that of the student's parents, surviving parent or legal guardian. If the parents are divorced or legally separated, the legal residence of the minor is that of the parent to whom legal custody has been awarded.
3. The residence status of all students is determined at the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a non-resident minor student at the time of enrollment whose parents have subsequently established legal residence in North Carolina; (b) in the case of a resident who abandons legal residence in North Carolina; and (c) in the case of a non-resident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months. PLEASE NOTE: Students previously classified as non-residents who feel they now meet the residence requirements must contact the Supervisor of Registration for approval and for completion of the proper change of residence form.
4. A person holding a Student F-1 Visa cannot be classified as a resident for tuition purposes.
5. Foreign nationals holding an Alien Registration Card (Form I-551) and other foreign non-immigrants holding work permits (Visas A, E, G, I, K, L) may be eligible for In-State tuition twelve months or more after the issue date of the visa. In these cases, they must provide documenting evidence that they have lived in North Carolina for at least 12 consecutive months.
6. Ownership of property in or payment of taxes to the State of North Carolina will not, in itself, qualify a person for the In-State tuition.
7. Any students or prospective students who have reason to believe they have been classified incorrectly for tuition purposes must bear the responsibility for securing a ruling by stating the case in writing to the Supervisor of Registration. Written request for a ruling shall be reviewed by the Associate Dean of Enrollment Services who may contact the student to secure additional information. Upon receipt of this ruling (if unfavorable), the student may appeal to the College Appeals Committee by making written request to the Supervisor of Registration and completing the Residency Questionnaire as prescribed by the "Student Residency Manual". A final residentiary decision by the College may be appealed to the State Residence Committee.

Student Financial Aid

Overview

Students who are enrolled or accepted for enrollment in at least a six-month program leading to a certificate, diploma, or degree may apply for financial assistance. Students must complete enrollment procedures for enrollment and have a high school transcript on file in the Office of Student Records. Individuals who are not U.S. Citizens or who are non-permanent residents are generally ineligible to receive financial aid. Contact the Financial Aid Office to determine eligibility.

In considering an applicant for aid, the student's entire living expenses are taken into account, in addition to tuition and fees. Students taking fewer than 12 credit hours, but at least 6 credit hours, may receive aid reduced in proportion to their academic load.

Awards generally range from $400 to $4000 per year and come from one or more of the following sources: Pell Grants, the College Work-Study Program, Local Scholarships, North Carolina Student Incentive Grants, Supplemental Educational Opportunity Grants (SEOG), and Perkins Loans. Pell Grants and employment through the College Work-Study Program comprise the majority of aid awarded to students.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is completed, in order to remain in proper sequence. The Summer Quarter is a full quarter with no significant reduction in course offerings and is not regarded to be "optional", as summer sessions often are at traditional institutions.

For more detailed information about the types of aid available, about eligibility, and about application procedures and policies, refer to the Student Financial Aid brochure, available from the Financial Aid Office upon request - 704/342-6942.

• Satisfactory Progress Standard

To receive Title IV financial aid funds, students must meet the U.S. Office of Education's statutory requirements of satisfactory progress. This definition reads: "Beginning with the 1987-88 award year, in order to become and remain eligible to receive Title IV funds, students must be making satisfactory progress."

The policy includes a **quantitative** measure of the student's progress, such as a grade point average. To measure the student's progress in the program accurately, the policy must have a **quantitative** measure of progress. To **quantify** academic progress, the policy must set a maximum time-frame in which a student is expected to finish the program.

In order to provide a fair and equitable opportunity for individuals to adjust to specific academic requirements, the Office of Financial Aid will provide a three-step process prior to denying financial assistance. Additionally, students will be able to appeal any decision made by the Office of Financial Aid.

Title IV financial aid recipients are governed by three requirements:

1) required quarter Financial Aid grade point average of 2.0 (C); twelve hours is a full-time load per quarter
2) must be enrolled in an approved program
3) may only receive up to 16 cumulative quarters of aid (equivalent to three years)

The records of financial aid recipients will be reviewed for satisfactory progress at the end of each quarter to determine if they are maintaining the grade point requirements set forth in this policy. Grades of A, B, C, D, F, and S (satisfactory) will be counted in the Financial Aid GPA calculation. Withdrawals and Never Attended Classes carry no point value, but are computed as part of the Financial Aid GPA. Grades of Audits and Credit by Examination are not computed in the Financial Aid GPA. During any quarter in which students receive Title IV funds and then decide to audit or receive credit by examination, they may be liable to repay those funds.

• Satisfactory Progress Policy Procedure

Step 1: Warning

Students who fail to meet the requirements set forth under the Satisfactory Progress Policy definition will be warned of this progress and officially notified of their status.

Step 2: Probation

If students fail to bring their status up to the requirements set forth in the Satisfactory Progress Policy definition within the next quarter, consecutive or otherwise, they will immediately be placed on probation and notified of their status.

Step 3: Suspension of Financial Aid

If students fail to meet the requirements set forth in the Satisfactory Progress Policy definition after completing three quarters, consecutive or otherwise, their financial aid will be suspended.

• Appeal Process

Students who have extenuating circumstances and fail meet the definition of the Satisfactory Progress Policy and/or other related policies may appeal to the Financial Aid Commmittee for reinstatement of financial aid. The appeal must be in writing and will be voted on at a regularly scheduled meeting of the Committee. The decision by the Financial Aid Committee is final. Documentation must be included with the appeal. (An example of extenuating circumstances would be hospitalization of the student or the death of an immediate family member.)

• Reinstatement of Aid After Suspension

If a student attends one quarter of classes, carrying 6 or more credit hours, while suspended from financial aid and makes satisfactory progress according to the definition, terms and conditions set forth in this policy, a Pell Grant will automatically be reinstated at the end of that quarter. Other types of assistance will be reinstated based on available funds. Whether approved by the Committee or approved after one quarter of satisfactory progress, the student's status will remain on probation.

This policy has been reviewed by the U.S. Office of Education. It is subject to change based on situational and federal guidelines. If additional information regarding this policy is needed, contact the Financial Aid Office.

• First Degree Waiver

Students wishing to apply for financial aid after the completion of a post-secondary degree must request a first degree waiver.

Contact the Financial Aid Office for detailed instructions.

• Verification

Institutions participating in Title IV funding for financial aid are required by federal mandate (Higher Educational Amendments of 1986) to check some of the information that students provide on their applications. The CPCC Financial Aid Office completes 100% verification of all applicants. Students must provide copies of student/parent federal tax return and/or documentation of other information. Additional supporting information may be required.

More information about this requirement is available from the Financial Aid Office upon request.

Financial Aid: Sources and Guidelines

Pell Grant

The Pell Grant program provides federal funds for qualified students who enroll at least half-time in an eligible program which is at least six months in length. The grant, which does not have to be repaid, is based on schedules and formulae approved annually by Congress.

The maximum Pell grant at CPCC is approximately $1700 per year for In-State residents and $2400 for Out-of-State residents.

Students with a Bachelor's degree are not eligible.

College Work-Study

A major form of financial aid available to students consists of employment through the College under the federal College Work-Study program.

A schedule is arranged so that students work part time around their classes either on the Central Campus or at Area Centers. The hourly rate is equal to at least the federal minimum wage, and the average number of hours that students may work does not exceed 20 hours per week.

Through this program, it is possible for students to earn up to $3500 per year.

Students with a Bachelor's degree are not eligible.

Supplemental Educational Opportunity Grant (SEOG)

The Supplementary Educational Opportunity Grant program provides aid to the neediest students with demonstrated financial need.

The amount of the grant is based on the applicant's need and availability of funds at the College. SEOG grants generally average $400 per year.

These grants do not have to be repaid.

Students with a Bachelor's degree are not eligible.

North Carolina Incentive Grant

Legal residents of North Carolina who are accepted for enrollment or who are enrolled full time in good standing in an undergraduate program of study in an eligible college, university, technical, or vocational school in North Carolina may apply for a Student Incentive Grant to help pay their educational expenses.

Students must demonstrate substantial financial need as determined through a need analysis application. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education.

These grants range up to $1150 per academic year. Students must apply before March 1.

This grant is not available during the Summer Quarter.

Students with a Bachelor's degree are not eligible.

Scholarships

Students do not usually apply for specific scholarships at Central Piedmont Community College; instead, all qualified applicants are considered for all available scholarships. Students should contact their program Department Head for additional scholarship information.

Scholarships are made available to the recipient on a prorated basis each quarter during the academic year. An award for a second year may be made upon approval of a new application and continued satisfactory academic performance.

See the additional information and listing of scholarships beginning on page

Student Loan Guidelines

Federal guidelines require acceptance for enrollment and maintaining satisfactory academic progress, and require the College to conduct loan counseling for all student borrowers. CPCC requires this counseling prior to the completion of loan applications.

Students in the following categories must obtain approval of the Financial Aid Committee prior to processing their student

loan applications: students who are on academic warning or probation, students who have accumulated more than $5000 in loans, students in their first quarter of study with no previous grade history who may or may not be receiving other aid which covers tuition, fees, and the cost of books and supplies.

• Stafford Student Loans

Central Piedmont Community College requires that students who borrow money to meet their college expenses use College Foundation, Inc., Raleigh, NC as a lender. CFI administers several loan programs, including the Stafford Loan.

Students who qualify may borrow up to $2625 per year. The Federal Government pays the 8% interest on the loan while the student is attending college at least half-time and for six months prior to the beginning of repayment. Minimum payment is $50 per month, and the loan must be repaid within 10 years.

Applications may be obtained from the Financial Aid Office.

• Perkins Loan Program

CPCC participates in the Perkins Loan Program. This program makes funds available to the neediest students who are taking at least a half-time schedule in one of the diploma or degree programs and who need a loan to meet educational expenses.

The Federal Government will pay the 5% interest on the loan while the student is in school and before repayment begins. Repayment begins six months after the borrower ceases to pursue a course of study at an institution of higher learning.

Perkins funds are very limited, and loans are not available to students who have completed a Bachelor's degree.

Emergency Short-Term Loans

Students who have applied and been approved for financial aid, and have not received a check, may qualify for an emergency short-term loan.

A limited amount of money is available for emergency situations. Emergency loans must be repaid within six weeks.

Vocational Rehabilitation Financial Assistance

Eligibility: In order to quality for Vocational Rehabilitation financial assistance, a student must have a mental or physical disability which is a handicap to employment. There must also be a reasonable expectation that, as a result of vocational rehabilitation services, the person will become gainfully employed. Each rehabilitation program is designed individually for and with the student.

Value: The amount of the award is based on need and the type of program in which the student is enrolled. It generally pays for tuition and fees and for some books and supplies and, in some cases, for supportive services such as interpreter services, attendant services, and transportation.

Application procedure: Contact the Vocational Rehabilitation Office nearest the student's home or contact the North Carolina Division of Vocational Rehabilitation Services, P.O. Box 26053, 805 Ruggles Drive, Raleigh, NC 27611-6053 or call 919/733-3364.

Scholarship Program

Introduction

The scholarship program at Central Piedmont Community College consists of two kinds of awards: merit-based scholarships and those based primarily on financial need.

New high school graduates, transfer and returning students are eligible to apply. All scholarship recipients must have a 3.0 (B) grade point average prior to receiving a scholarship, must maintain full-time enrollment, and must pass at least nine credit hours each quarter.

Unless otherwise specified, scholarship applications are available from the Financial Air Department on the Central Campus. Questions regarding application and selection should be directed to the Financial Aid Department - 704/342-6579.

Donors of scholarships should direct these tax-exempt contributions to the CPCC Foundation, Incorporated, a non-profit, 501(c)(3) foundation that supports and supplements educational programs, projects, and scholarships at CPCC for which funds from other sources are unavailable or inadequate. Questions regarding the establishment of scholarships and requests for other scholarship donor-related information should be directed to The CPCC Foundation - 704/342-6869.

Selection Procedure

The selection procedure is designed to ensure a fair and equitable distribution of scholarship funds to every area of the College in order to enhance efforts to recruit and retain highly motivated students in all programs.

The Financial Aid Committee meets twice each quarter to award scholarships for the coming quarter. The Department Head or other designated person is responsible for submitting two names, along with the students' social security numbers and a brief statement of nomination, to the Director of Financial Aid. The Director has the authority to award scholarships from a waiting list and/or upon endorsement by the Financial Aid Committee.

Notification and Payment

Notification of awards is sent by the Director of Financial Aid to the recipient, The CPCC Foundation, the Department Head, and the Marketing Services Department.

Scholarships are payable in quarterly installments.

Merit Scholarships

The following merit scholarships are available through donations by individuals and firms listed below:

American Culinary Federation Education Institute

Applicants must be enrolled in a Foodservice program at CPCC and have demonstrated a desire to continue studies in the field of foodservice and/or the hospitality field with emphasis in cookery, baking, or food and beverage. The recipient of this scholarship must be a current member of the American Culinary Federation and must have completed one quarter in a Foodservice program prior to applying for this scholarship.

Deadline: Applications will be reviewed by the ACFEI National Scholarship Committee annually on or about Dec. 1, May 1, and Aug. 1.

Charlotte Engineers Club
Excellence in Engineering Technology Scholarship

This is a $300 annual academic scholarship for a full-time student enrolled in an Engineering Technology Program, including Architectural, Civil, Electrical, Electronics, Manufacturing, and Mechanical Engineering Technology. All applicants need to have earned a minimum of 25 quarter hours

toward an Engineering Technology degree and have a minimum of 3 quarters remaining as a full-time student before graduation. The recipient of this award will receive $100 for the Fall, Winter, and Spring Quarters. Qualified students should complete the application form which is available in the Engineering and Advanced Technology Department, Sloan Building, Suite I.

Deadline: August 1

Data Processing Management Scholarships

Scholarships will be awarded to active members in good standing of the Student Chapter of the Data Management Association. Recipients must be enrolled in the Business Data Processing, Computer Operations, or Data Entry programs. They must have demonstrated academic excellence with a GPA of 3.2 (B) or better. The Financial Aid Committee will decide the number and amount of scholarships to be awarded.

Deadline: August 1.

Dickson Foundation Merit Scholarship Fund

Two $750 annual scholarships are awarded to Associate Degree Nursing students who have demonstrated academic proficiency upon entering their fifth quarter of nursing. The recipient of this award will receive $250 per quarter in the fifth, sixth, and seventh quarters of study. To qualify as a candidate, students should complete the application and submit two letters of recommendation from the ADN clinical area faculty members.

Deadline: June 1.

Eastern States Women's Traffic Scholarship/Educational Program

A minimum of $500 to a maximum of $1500 per scholarship is awarded Spring Quarter to a student enrolled in a degree program majoring in Transportation, Traffic Management, or a related field such as Business Administration.

Deadline: March 1.

Karl and Anne Ginter Scholarship

Two $750 annual academic scholarships are available for full-time students enrolled in an Engineering Technology program. All applicants must have earned a minimum of 25 quarter hours toward an Engineering Technology degree and have a minimum of 3 quarters remaining as a full-time student before graduation. Recipients of this award will receive $250 in Fall, Winter, and Spring Quarters. Eligible students should complete the application form which is available in the Engineering and Advanced Technology Department, Sloan Building, Suite I.

Deadline: June 26.

I.E.E.E.
Institute of Electrical and Electronics Engineering, Inc.

This scholarship is designed to promote excellence in engineering technology. An award is made to one full-time student enrolled in an Electrical or Electronics Engineering Technology program who is a member of the Student Branch of I.E.E.E. All applicants must be U.S. citizens and reside in North or South Carolina; must have earned a minimum of 25 quarter hours toward a degree in Engineering Technology; and must have a minimum of 3 quarters remaining as a full-time student before graduation. The recipient of this award will receive 3 quarterly disbursements starting Fall Quarter. Eligible students should complete the application which is available in the Engineering and Advanced Technology Department, Sloan Building, Suite I.

Deadline: September 15.

Mercy Hospital Merit Scholarships

Three $500 annual scholarships are awarded to Licensed Practical Nursing students who have demonstrated academic proficiency upon entering their second quarter of nursing. Recipients of this award will receive $250 per quarter for their third and fourth quarters.

Deadline: December 1.

Metrolina Paralegal Association

This is a $100 scholarship awarded to a student who is enrolled in the Paralegal Technology program. To qualify, an applicant must have completed a minimum of 60 credit hours of the Paralegal curriculum requirements and be a resident of Mecklenburg, Gaston, Union, or Cabarrus County. The completed application must be submitted to the Metrolina Paralegal Association Scholarship Committee.

Deadline: December 15.

N.C. Law Enforcement Women's Association

One $300 scholarship is awarded annually to a full-time student majoring in Criminal Justice, Juvenile Justice, Correctional Science, and/or Police Science. The recipient of this award will receive $100 in the Fall, Winter, and Spring Quarters. Factors to be considered will include academic achievement, individual financial need, and participation in outside activities. The recipient will be selected by the Coordinator of Student Development Services, North Carolina Department of Community Colleges.

Deadline: August 1.

Southern Bell Scholarships

Two $500 annual scholarships are awarded to two full-time students enrolled in a course of study leading to a degree or diploma. Recipients of this award will receive $200 Fall Quarter, $150 Winter Quarter, and $150 Spring Quarter.

Deadline: July 1.

United Mechanical Corporation

Two $165 scholarships are awarded to students who have completed two quarters of satisfactory study in the Air Conditioning, Heating and Refrigeration program. A total of two awards may be given to students in either the diploma program (for 3rd and 4th quarters) or the degree program (for 3rd through 7th quarters). Awards will be made for one quarter only and will be renewed automatically with satisfactory progress.

Deadline: May 1.

Wachovia Technical Scholarships

Five $500 annual scholarships are awarded to full-time students enrolled in the second year of a two-year technical program who have demonstrated academic proficiency. Recipients of this award will receive $200 Fall Quarter, $150 Winter Quarter, and $150 Spring Quarter. Recipients, along with altemates, will be selected by the Wachovia Scholarship Committee.

Deadline: June 1.

Need-Based Scholarships

Annual awarding of the scholarships listed below will depend on the availability of funds.

Charlotte Housing Authority Scholarships

This program provides scholarship funds to deserving residents of Charlotte Housing Authority projects. Recipients must be enrolled in a two- or four-year institution. Awards are made

based on scholarship achievement, school and community service, and need. To quality, students must complete the application which is available in the Housing Authority office.

Deadline: March 8.

Crowder Construction Company Scholarships

Awards of as much as $1000 per year for four years may be renewed annually, provided academic performance is maintained. Applicants must be children of employees who have worked at least three for construction companies located in Mechlenburg County. Preference will be given to children of employees of Crowder Construction Company.

Deadline: March 1.

Dr. & Mrs. Spurgeon W. Webber, Jr. Minority Scholarship Fund

Scholarships will be given to full-time students from families in need in Dr. Webber's dental practice, and from the Charlotte community, who will be enrolling at CPCC for the first time. Recommendations will come from Dr. Webber's office, the CPCC Minority Recruiter, and through the Financial Aid Office at CPCC. The Financial Aid Office will submit instructions about each recipient's disbursement needs to the CPCC Financial Services office. Recipients will be screened by the Financial Aid Committee and will forward selected applications to Dr. Webber to determine the final award.

Deadline: April 1.

Fred D. Alexander Scholarships

Twenty-two, two-year scholarships are awarded annually by the CPCC Foundation to two graduating seniors in each Charlotte/Mecklenburg high school to cover tuition, fees, and an allowance for books and supplies during Fall, Winter, and Spring quarters for two consecutive years. Each of the eleven CMSS high schools nominate two recipients and one alternate. To quality, a student must have financial need, maintain a C+ average or better through the junior year of high school, be a member of a minority group, and enroll in a degree or diploma program at CPCC. Nominees will be selected by high school counselors. The Financial Aid Committee will verify and endorse the nominees.

Deadline: April 1.

Susan Kelly Fontes Memorial Scholarships

Established in 1985, this scholarship is available to a learning disabled student for one year (Fall, Winter, and Spring quarters). Applicants must be in their second quarter at CPCC and must be maintaining satisfactory academic progress. To qualify, students complete the application available in the Special Services Department and submit it to the Learning Disabilities Specialist there. Selection of the recipient will be made by the Special Services staff.

Deadline: Apply during Summer Quarter.

Rexham Corporation Scholarship Fund

Two $250 scholarships are awarded annually to physically handicapped, hearing- or vision-impaired students who are enrolled full time in an eligible program at CPCC. Recipients must maintain a grade point average of 2.0 (C) or above and have financial need. Applicants will be nominated by the Special Services Department staff at CPCC. Financial selection will be made by the Financial Aid committee.

Deadline: Selection is made Winter Quarter.

Marvin B. Rorie Scholarship

A $375 annual scholarship is awarded to a graduating senior from a Charlotte-Mecklenburg high school who has been enrolled in the Marketing and Distributive Education program and who has a career objective in some area of marketing. The recipient must have earned an overall grade average of C or better in high school and have financial need. A committee from each high school will select applicants to be considered by the Scholarship Committee. Recipients of this award will receive $125 for the Fall, Winter, and Spring Quarters. To apply, contact Richard Zollinger, CPCC, Sloan Building, Room 227.

Deadline: March 1.

Women's Council of the Charlotte Home Builders Association

Scholarships totalling $2000 are awarded to students entering a field that is directly related to the Home Industry, i.e., Plumbing, Heating/Air Conditioning, and Electrical Installation and Maintenance. Awards will be based on financial need and academic achievement. Recipients will be chosen by a selection committee from the Women's Council. Applications are available in the Financial Aid Office.

Deadline: April 30.

Veteran and Military Affairs

Overview

Financial Aid for Qualified Recipients of Special U.S. Government Benefits Programs

Information in this section is directed to individuals who are eligible to receive assistance through the following programs:

Active Duty Military Personnel
National Guard
Social Security
Selected Reserves
Veterans
Other Eligible Persons

Note: Veterans, as well as those qualifying through other programs, may attend CPCC as regular students regardless of their benefit status and should review information elsewhere in this catalog that pertains to them.

Social Security Administration and Other Government Agency Benefit Programs

The College provides advisement and certification services for students (adult basic and secondary school) who are eligible for Social Security.

Students seeking assistance under this program should contact the respective agency or the CPCC Office of Veteran and Military Affairs.

Veterans, Eligible Persons, National Guard, Selected Reserves, and Active Military Personnel

The College provides educational opportunities at both college and secondary school levels for veterans, disabled veterans, eligible persons (spouse and/or dependents) of service-connected deceased or 100% service-connected disabled veterans, those missing in action, and prisoners of war.

For additional information regarding these benefits, which are administered by the United States Department of Veterans Affairs (DVA), contact one of the following offices:

- Department of Veterans Affairs, Regional Office, Winston-Salem, NC

- County Veterans Service Office
- District Office of the North Carolina Division of Veteran Affairs
- CPCC Office of Veteran and Military Affairs

Montgomery GI Bill (Selected Reserve - Chapter 106)

Members of the North Carolina National Guard (Air, Army) and Selected Reserves (Air Force, Army, Coast Guard, Marines, Navy) are eligible for educational assistance under the Montgomery GI Bill (Chapter 160) which began July 1, 1985. Members must be serving a six-year enlistment or re-enlistment to quality. Effective October 1, 1990, benefits became payable for development and deficiency courses.

For more information, contact the respective National Guard or Selected Reserve Command, the U.S. Department of Veterans Affairs, or the CPCC Office of Veteran and Military Affairs.

Tuition Assistance

Tuition assistance, awarded by the respective branch of service, may also be available to members of the National Guard, Selected Reserves, or Active Duty Personnel.

Eligibility requirements are available at the member's unit command or from the CPCC Office of Veteran and Military Affairs.

Tutorial Assistance

Tutoring for classes is available through the CPCC Drop-In Center. If tutors are not available at no charge, the Department of Veterans Affairs will pay the cost of tutorial assistance.

Current GI Bills

- Chapter 30 - Montgomery: Active duty since July 1, 1985
- Converters: Chapter 34/30 - Vietnam Era: Chapter 30 Eligible; Active duty since October 19, 1984
- Chapter 106 - Montgomery: National Guard, Selected Reserves, since July 1, 1985
- Chapter 31 - Vocational Rehabilitation (service-connected, 20% or more disabled)
- Chapter 32 - Post-Vietnam Era, Veterans Education Assistance Program (VEAP)
- Chapter 35 - Spouses/Dependents (service-connected, 100% disabled or deceased
- Sections 903 and 901 - non-Contributory VEAP

Academic Requirements

"The law requires that educational assistance benefits to veterans and other eligible persons be discontinued when the student ceases to make satisfactory progress toward completion of his/her training objective. Benefits cannot be resumed unless DVA finds that the cause of the unsatisfactory progress or conduct has been removed and the program of education or training to be pursued by the student is suitable to his/her aptitudes, interests, and abilities."*

*From: Certification of Students Under Veterans' Laws, p.7-8, American Association of Collegiate Registrars and Admissions Officers.

Veterans and other eligible persons follow the same standards of academic progress that apply to all CPCC students. These standards are described in the College Policies and Procedures section of this catalog.

Veterans and other eligible persons are encouraged to seek academic assistance by contacting their instructor, counselor, advisor, or the CPCC Office of Veteran and Military Affairs before academic difficulties place them on "Academic Intervention" or "Academic Suspension".

• Reporting Procedures

Both CPCC and the recipient of tuition assistance are responsible for reporting status changes or lack of satisfactory academic progress, as specified by the respective branch of service or agency.

Veterans and other eligible persons are responsible for notifying the CPCC Office of Veteran and Military Affairs and the U.S. Department of Veterans Affairs immediately of any program changes, withdrawal from enrollment, or graduation. All status changes and course load adjustments for poor attendance must be reported promptly, and any overpayments must be repaid to DVA.

Class attendance is required. Instructors are required to submit CPCC"Veterans Exceptional Reports" through their department head to the CPCC Office of Veteran and Military Affairs immediately after a student has missed two consecutive weeks or stops attending before the end of the quarter.

"Full-term" attendance extends through the last scheduled class of the quarter. CPCC are required to report the last day of attendance promptly.

Academic requirements, reporting procedures, mitigating circumstances, and other information regarding veterans and eligible persons also apply to the National Guard and Selected Reserves.

• Records

"Records of Progress" are kept by the College on both veteran and non-veteran students. Progress records (grade reports) are furnished to all students, veteran and non-veteran, at the end of each quarter.

• For assistance or more information

Contact the CPCC office of Veteran and Military Affairs by calling 704/342-6710 or 6602.

College Policies and Procedures

College Policies and Procedures

Academic Advisement

Academic Advisement at CPCC is a comprehensive program designed to help students succeed in meeting their educational goals.

Students studying for a degree, diploma, or certificate begin with an admissions process. Depending upon requirements of the program of study, this may include completing the CPCC Admissions Form, taking placement tests, attending an orientation meeting with a Program Counselor, and meeting with the Program Director before registering for classes. After a student has officially declared a program of study and has completed the admissions process, a faculty member from the program becomes the student's Faculty Advisor.

Students are encouraged to contact their Faculty Advisors when they have questions, concerns, or academic problems; however, academic advisement is mandatory only for students who do not meet the Standards of Progress stated in the CPCC Grading Policy.

Students who do not meet the Standards of Progress are placed on Academic Assistance or Academic Intervention and cannot register for the next quarter without academic advisement. These students are encouraged to contact their Faculty Advisors before Advisement Day, prior to registration dates, so that necessary steps can be taken for them to register.

Students taking courses for a second consecutive quarter after being placed on Academic Intervention are not permitted to register until their final grades for the current quarter become available. If their program GPA is within Standards of Progress at that time, they are cleared to register. If the program GPA remains below Standards of Process, however, they will be placed on Academic Suspension and will be assigned to a Program Counselor for advising.

Students who are placed on Academic Suspension are not allowed to take curriculum courses for one quarter. Several options are considered by suspended students and their Program Counselor for this quarter:

1. They may take classes in Advancement Studies, ESL, Career Development (GEN 1202) or Studies Skills.
2. They may take Corporate and Continuing Education courses.
3. They may choose not to register for any courses.
4. They may change to a different program.

After their quarter of Suspension, students are placed on Academic Probation for a quarter and their work is monitored by their Program Counselor.

At the end of the quarter of Academic Probation, students are placed on Academic Suspension again if their program GPA remains below Standards of Progress. If marked improvement has been demonstrated during the quarter, the program counselor may approve continuation of another quarter of Academic Probation until the Standards of Progress are maintained.

The Academic Advisement program is refined and improved through evaluations by faculty and students, and through faculty workshops and seminars.

Academic Honors

President's List

To honor students for outstanding academic achievement, the College publishes a President's List at the end of each quarter to recognize students enrolled in curriculum programs who meet the following requirements:

- In a given quarter, completed at least 15 hours of credit in courses numbered 1000 through 5000
- In a given quarter, achieved a 4.00 grade point average (A) with no F's, I's, or W's

Deans' List

To honor students for outstanding academic achievement, the College publishes a Deans' List at the end of each quarter recognizing students enrolled in curriculum programs who meet the following requirements:

- In a given quarter, completed at least 12 hours of credit in courses numbered 1000 through 5000
- In a given quarter, achieved a 3.50 (B+) or greater grade point average with no F's, I's, or W's

Attendance

Absences seriously disrupt a student's orderly progress in a course, and significantly diminish the quality of group interaction in class. There is also a close correlation between the number of absences and the final grade. Although an occasional absence may be unavoidable, it in no way excuses a student from meeting the requirements of the course. Students are still responsible for preparing all assignments for the next class and for completing work missed. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course, as well as authority to determine whether the student shall be reinstated.

Auditing Courses

Certain courses, such as First Aid, CPR, or those with an HPE prefix, may be designated as inappropriate for audit.

A student auditing a course is expected to attend regularly, but may choose not to take examinations, and will not receive college credit. Each student must request audit status from the instructor at the first class meeting. The extent to which an auditing student participates in class assignments will be decided by the student and the instructor. For tuition and fee purposes, an audit requires full course payment. A record of the audit shall be entered on the student's transcripts as AUD with no college credit given. It cannot later be converted to a letter grade. Procedures for registering or withdrawing from AUD courses are the same as for any other course.

Changing Grades

Grade changes can be made by the instructor of record or, in extenuating circumstances, by the appropriate Department Head or Program Director.

Course Load

Students registered for at least 12 hours of credit are considered full-time students. Overload hours require permission from a Program Director, Program Counselor, or Department Head. The approved overload form must be presented when registering.

Overload levels are:

- Business, Health & Technology Programs – 21 hours
- College Transfer Programs – 20 hours

• Associate in General Education Degree Program – 20 hours

Course Substitution

Course substitutions are permitted with the approval of the department.

Course Waiver

Course waivers are permitted upon approval of the department head. No credit hours will be granted for courses that are waived.

Credit By Examination

In order to receive credit by examination, a student must show convincing evidence of special aptitude or knowledge of the course material. A written, oral, and/ or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the Department Head. If the student performs satisfactorily on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number of normally assigned to that course at Central Piedmont Community College.

Grading Policy

Student Grade Point Average

Students are graded according to the following grade point system.

Grade	*Point Value*	*Description*
A	4	Excellent
B	3	Very Good
C	2	Satisfactory
D	1	Poor
F	0	Failing

The following grades will not be used in computing the grade point average:

AUD Audit
I Incomplete
N Never Attended
S Satisfactory
U Unsatisfactory
W Withdrawal
X Credit by Examination

Example:

ENG 1504, 5 credits, Grade A = 4 points, 5 X 4 = 20
MAT 1504, 5 credits, Grade B = 3 points, 5 X 3 = 15
DFT 3405, 4 credits, Grade C = 2 points, 4 X 2 = 8
PRN 5200, 2 credits, Grade D = 1 point, 2 X 1 = 2
HPE 1101, 1 credit, Grade F = 0 points, 1 X 0 = 0
Total Credits: 17 Total Points: 45
Divide 45 points by 17 credits = 2.647 GPA (Grade Point Average)

Three GPA's will appear on the student's academic record: (1) cumulative GPA, (2) program GPA, (3) quarterly GPA.

A "W" (**Withdrawal**) will be assigned during the first two-thirds of a course if a student has been out of contact with the instructor for two consecutive weeks. The instructor may also assign a "W" at other times when circumstances warrant such action; and the instructor may reinstate the student. The student may also officially withdraw from a course prior to the last 14 calendar days of the quarter (short summer session: 7 days) by presenting a request to the Registration Center. A "W" will remain on the student's transcript and will not count as credit hours attempted.

An "I" (**Incomplete**) may be assigned when a student has persisted through the course and has completed at least 90% of the requirements for passing the course or in other extenuating circumstances as determined by the instructor. The student may have a maximum of two quarters to resolve an "I" grade, unless the time period is otherwise specified by the department. When an "I" grade has been resolved, the final grade will be recorded beside the "I" (i.e. *I*B) and the GPA's will be recomputed. An "I" which is unresolved will be changed to the grade of "*I*F" after two quarters.

Excessive "I's," "F's" and "W's." Student will not be allowed to register for a course in which they have received three "I's," "F's" and/or "W's" until they receive permission from the department that offers the course.

Repeated courses. Repeated courses will appear on the student's transcript. Each attempt will be shown, but the student's cumulative and program GPAs will be recomputed to count only the last completed attempt.

Standards of Academic Progress. For students seeking a degree, diploma or certificate, certain standards of academic progress apply. These standards are designed to assist students in meeting their academic goals. These students must have a 2.0 GPA (Grade Point Average) in the curriculum required for the degree, diploma, or certificate. In addition, for students enrolled in certain programs, a grade of C or better in certain courses may be required in order to receive the degree, diploma, or certificate from Central Piedmont Community College.

Academic Assistance. Students who are enrolled in a program and whose quarterly GPA falls below 2.0 or who have not received credit for at least one half (50%) of the hours for which they have registered in a given quarter (due to I's, F's, and W's), will receive a letter informing them that they must make arrangements to consult with their Faculty Advisor.

Academic Intervention. Students whose cumulative program GPA falls below the following categories will be placed on academic intervention. While on academic intervention, students will be limited to registering for the number of hours approved in writing by their Faculty Advisor. Students may be required to register for special assistance courses.

2-Year Degree Program Category
1. 0-30 credit hours attempted 1.50 GPA
2. 31-60 credit hours attempted 1.75 GPA
3. 61-75 credit hours attempted 1.90 GPA
4. 76+ credit hours attempted 2.00 GPA

1-Year Program Category
1. 0-15 credit hours attempted 1.50 GPA
2. 16-30 credit hours attempted 1.75 GPA
3. 31-45 credit hours attempted 1.90 GPA
4. 46+ credit hours attempted 2.00 GPA

Students in certificate programs will be placed on intervention when their cumulative program GPA falls below 2.0.

Academic Suspension. Students who do not raise their cumulative program GPA to the required level within the first two quarters in which they are enrolled, following a notice of academic intervention, will be placed on **academic suspension.** Students on academic suspension will be ineligible to enroll for college credit classes for one quarter. Academic suspension may be appealed to the appropriate Department Head.

Graduation

The College reserves the option of changing the requirements for completing a degree, diploma, or certificate program at any time. When such changes occur in degree or diploma programs, the College will honor the original program completion requirements for four years for students who were enrolled in the program at the time of the change, and they may fulfill either the original requirements or the changed requirements.

When a student is not enrolled in program-related courses for four or more consecutive quarters, the requirements for program completion will be based on those requirements in effect when the student re-enrolls in the program, not on those in effect when the student originally entered the program.

Exceptions to requirements can be made upon the approval of the Department Head. Sometimes such exceptions must be made because courses in an earlier curriculum program may no longer be offered.

Processing of Degrees and Diplomas:

1. If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Check Request Form should be obtained from the Graduation Certification Office, 704/342-6525.

2. After receiving this form, staff in the Graduation Certification Office review all records in the student's folder and mail the student a list of courses that must be completed in the final quarter of study, as well as a list of any documentation in the student's folder that is incomplete.

3. Upon successful completion of the final courses required for graduation, a notation of the degree or diploma and the date of graduation is entered on the student's CPCC transcript. The student's date of graduation is the Quarter (Summer, Fall, Winter, or Spring) when all documents needed for graduation certification are on the file in the student's folder. Graduates may request copies of their transcripts from the Office of Admissions and Records whenever it is necessary for them to provide documentation of completed course work and related training for employers and others requiring this information. There is no charge for the first two copies; additional copies are $1.00 each.* Transcripts are not released if the student owes money to the College.

4. Any graduate who would like a degree or diploma, suitable for framing as a memento, needs to fill out a Degree/Diploma Order Form in the Graduation Certification Office (Terrell Building 2nd floor). This form is then presented to the Cashier's Office with payment of the $12.50* order fee. (Previous quarter students pay $15.00.*) Students who must have their degrees/diplomas mailed outside the U.S.A. need to make arrangements with the Graduation Certification Office prior to their departure to cover the special postal charges and insurance that will be required.

*Note: This cost is subject to change without notice.

Plagiarism

When students use another person's work, words, or ideas without properly acknowledging the source, they are plagiarizing and are subject to the discipline of the instructor. Possible actions open to the instructor are to dismiss the student from class and assign "F", to re-admit to class conditionally, or to re-admit to class unconditionally.

Program Help

Program information, including admission requirements, is available by calling Telephone Registration, CHRIS (Computer-Handled Registration/Information System) at 704/342-6970. This service is available twenty-four hours a day, seven days a week. To find the telephone code for information about a specific program, consult the current CPCC Class Schedule.

Repeating Successfully Completed Courses

With the exception of a very few DAN - and MUS - prefix courses that can be repeated more than two times to meet degree requirements, students must obtain departmental approval before enrolling in a course which they have already successfully repeated twice. HPE courses, however, may not be repeated after one successful completing.

Self-supporting classes (Corporate/Continuing Education, for example), may be repeated any number of times.

Readmission from Suspension

Central Piedmont has an open door policy and does not suspend a student from the College. However, according to the Grading Policy, when a student has performed below Standards of Progress for a specified period of time, that student is suspended from taking curriculum classes for a quarter.

According to the Standards of Progress, the GPA for a program must be at a specified level commensurate with the hours attempted for the program. When a student's Program GPA drops below the Standard, the student is placed on Academic Intervention. If Intervention has occurred for two consecutive quarters and the Program GPA at the end of the second quarter of Intervention is still below the Standards of Progress, the student is then placed on Suspension for one quarter.

During that quarter, the student has several options:

- Take classes in Advancement Studies, ESL, Study Skills, or Career Development (GEN 1201) that can provide the student with skills needed to improve class performance
- Take Continuing Education classes
- Take no classes
- Change programs

When the student is suspended, the Program Counselor provides academic advisement, rather than a Faculty Advisor in the program. When the student returns after the quarter of Suspension, the student is on probation and continues to be counseled by the Program Counselor. If, at the end of the probationary quarter, the program GPA meets the Standards of Progress, the student is returned to academic advisement by a Faculty Advisor in the program.

If the program GPA at the end of the probationary quarter remains below Standards of Progress, the student is again suspended with the same options as above. However, if the student

has made progress toward improving the program GPA, the Program Counselor can waive the suspension and allow the student to continue for another quarter.

Students on Second Intervention, Suspension, or Probation are not allowed to register until the current quarter ends. This option has been chosen by the College, rather than the alternative of canceling classes for which students registered but which they are no longer eligible to attend.

Student Conduct

College students are considered to be mature individuals. Their conduct, both in and out of the College, is expected to be that of any respectable adult in a public place. Under these circumstances, it is expected that students will remember that they are in a democratic situation and that the reputation of the institution rests on their shoulders. Common courtesy and cooperation make a long list of rules unnecessary.

However, students should note that the possession, consumption, or distribution of alcohol or illegal drugs, or possession of weapons on the Central Campus or at any other CPCC instructional site is specifically prohibited and regulated by State statute. Violators will be prosecuted by the authorities.

Failure to meet standards of conduct acceptable to the College may result in a disciplinary suspension. The procedure stated below will be followed when disciplinary action against a student is being considered:

1. The student will be informed of the charges against him/her both in writing and in conference with the Dean for Student Development or representative.
2. The student will be advised of the date, time, location and procedures of the meeting in which the charges will be presented.
3. The Dean for Student Development has the right to suspend a student temporarily until the hearing process can be completed.
4. The charges will be described and examined at a meeting of the complainant, the student, the Dean for Student Development or representative, advisers and assistants that either party wishes to bring. The Dean for Student Development must be notified within two working days of the hearing regarding anyone other than the principal parties who will be attending.
5. The Dean for Student Development will have two working days following the hearing to consult again with all parties, as may be necessary, and render a decision.

Student Grievance Procedure

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal to the instructor or staff member making the decision. If students are not satisfied and the problem involves a program matter, appeal may be made through the appropriate curriculum Dean to the Vice President for Education and the President. Non-program matters follow the same route except through the Dean for Student Development. All such appeals should be in writing and state the basic facts of the case.

A grievance related to discrimination should first be presented to the appropriate compliance officer. Grievances related to Section 504 of the Rehabilitation Act of 1973 should be directed to the Director of Special Services; for Title IX, the Director of Personnel Services.

Student Records (Transcripts)

The College maintains the position that students' records are their own property; therefore, this information is released only when a student signs a Records Release Form in the Office of Student Records. Students may have copies of their transcripts sent to any institutions or individuals they choose. They may also order copies for their own use. The first two copies are free; $1.00 is charged for each additional copy.

Policies and Procedures:

Central Piedmont Community College, in fulfilling its responsibilities to students, must maintain accurate and confidential student records. The College staff recognizes the rights of students to have access to their academic and personal records in accord with existing College policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

Definition of Term "Educational Records":

These regulations, as defined under the provisions of the Family Educational Rights and Privacy Act of 1974, include files, documents, and other materials which contain information directly related to students and which are maintained by an educational institution or by an authority on behalf of the institution. The term "educational record", under the provisions of the law, does not include the following:

1. Records of institutional, supervisory and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;
2. Records and documents of Security Officers of the institution which are kept apart from such educational records;
3. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor, or other recognized professional or paraprofessional acting in their official capacity and which are made, maintained, or used only in connection with a provision for treatment for the student and are not available to anyone other than the persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;
4. Financial records of the parents of the students or other information therein contained;
5. Confidential recommendations if a given student has signed a waiver of the student's rights of access, provided such a waiver may not be required of the student; and
6. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or statements are not used for purposes other than those for which they were specifically intended.

Control Provisions on Student Records and Student Information:

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Office of Student Records), the student will receive a copy of the release.
2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection, students are entitled to an explanation of any information contained in their records.
3. The official student file shall not be sent outside the Counseling Office, Records Office, Admissions Center, Financial Aid

Office, Veteran and Military Affairs Office, or other custodial office except in circumstances specifically authorized by the Dean for Student Development. The authorization for such special circumstances must be in writing.

Release of Student's Educational Records to Educational Institutions, State and Federal Agencies:

1. Such requests for confidential information shall not be honored without proper written consent by the student for the release of such records by the student except under conditions indicated in paragraphs 2 and 5 below.
   a. The written consent must specify the records or the specific data to be released, to whom they are to be released, and the reasons for release.
   b. Each request for consent must be specific, and each request must be handled separately.
2. Request for confidential information will be honored without prior consent of the student in connection with an emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a Cabinet Officer unless it can be shown that, under the circumstances, time would not permit or that no Cabinet Officer was available.
3. The following "Directory Information" may be made available to the public by the College unless students notify the Dean for Student Development in writing, by the third week of the quarter, that such information concerning themselves is not to be made available:
   a. Student's name and hometown;
   b. Major field of study or program;
   c. Dates of attendance, degrees, diplomas or awards received and the most recent previous educational institution; and
   d. Place of birth.
4. Information other than "Directory Information" – Any release of student information for public use or use by the media except that designated above (paragraph 3) must have prior written approval by the students involved.
5. Disclosure to Government Agencies – Properly identified and authorized representatives of or bona fide written requests from the Comptroller General of the United States, the Secretary of Health, Education and Welfare, an administrative head of a federal education agency, or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with the enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.
6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.
7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:
   a. An official order of a court of competent jurisdiction, or
   b. Subpoena (Students will be notified immediately by registered mail that their records are being subpoenaed.)
8. Record of Who Has Access – A record of access to the official student file will be maintained within the file itself. This record will show the name, address, date and purpose of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

Students' Rights to Question Content of Their Official Student Files:

1. Students have the right to review their official records maintained by the College. Furthermore, students may question any inaccurate or misleading information and request correction or deletion of such data from their files.
2. All such requests will be sent to the Director of Admissions and Records and will become a part of that student's file.
3. All requests for correction of a student file will be acted upon within 45 work days of receipt of the request. If the custodian can verify that such data are, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Vice President for Educational Support. After a student has had the opportunity to present the case to the hearing committee, the committee will render a decision in writing stating the reasons for its decision. If the decision is in agreement with the student's request, the student will be permitted to append a statement to the record in question, showing the basis for the disagreement with the denial. Such additions will become a permanent part of the record.

Annual Notice to Students of Their Rights Under Family Educational Rights and Privacy Act of 1974:

The College policy on access to and release of student information will be made available to students, faculty and staff. This information will be placed in the Student Handbook.

Pre-College Programs

Pre-College Programs

Basic Studies

Limited English Proficient (LEP)

LEP/ABE is a component of Adult Basic Education with its goals and the additional objective of teaching English to students who have Limited English Proficiency. Courses are designed to emphasize survival language skills and acculturation at the beginning levels, and to provide an integrated continuum to higher level skills. The curriculum is flexible and reflects the needs of the students. Classes meet on the Central Campus and at a variety of locations throughout the community.

LEP/Amnesty classes are specifically designed to meet the Immigration Reform and Control Act (IRCA) requirements, and to prepare applicants for permanent residency and citizenship. These classes are also offered at a variety of locations and times.

For more information, call 704/342-6716.

Adult Basic Literacy Education (ABLE)

ABLE is a literacy program which offers an innovative approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, and specialized programming to teach adults reading and math skills below a ninth grade level. Instructors and tutors work one-on-one or in small groups to guide students through program materials and help with use of the equipment.

Instruction in the ABLE program is free for adults 18 years or over. The ABLE program seeks to combat adult illiteracy by amassing an array of educational media and teaching techniques in one location. The ABLE method speeds the educational process of adult non-readers and enhances their chances for success.

For ABLE information, call 704/342-6971.

Adult Basic Education (ABE)

Adult Basic Education offers scheduled classes on the Central Campus and at many community locations to provide learning experiences which meet the basic education needs of adults in Mecklenburg County. The ABE course is designed to provide learning experiences for adults 18 years old and older whose educational achievement is less than ninth grade, with special emphasis on those adults whose achievement is less than fifth grade. The ABE course also provides experiences which are intended to meet social and personal needs of adult students.

The ABE curriculum is a comprehensive curriculum which takes cognizance of the diversity of needs, interests, abilities, and desires of participating adults. Included in the curriculum are the communicative skills of reading, writing, listening, and speaking. Also included with equal emphasis are arithmetic, social studies, health and hygiene, elementary science, consumer education, and other areas of interest to the students.

For ABE information, call 704/342-6716.

Adult High School Diploma (HSD)

The Adult High School Diploma program leads to a diploma granted by the Charlotte-Mecklenburg Board of Education.

• Admission into the program requires that an individual be eighteen years of age. An official transcript, in a sealed envelope from the school last attended, must be sent or presented for evaluation by CPCC.

• For graduation, the Board requires four units of English, two units of mathematics, one unit of government and economics, one unit of United States history, one unit of biology, one unit of physical science, and a passing score on the North Carolina Competency Test. Students who have not completed a required unit enroll for at least one quarter of study in the appropriate HSD course for that subject. The unit toward graduation is earned in that subject by passing the examination at the end of the course. The North Carolina Competency Test is administered on a regular basis.

• HSD classes are held on the Central Campus and at off-Campus locations.

• There is no charge for HSD classes; however, students must purchase their textbooks.

• For more information, call (704)342-6864 or 6778.

General Educational Development (GED)

The GED program offers another option for students who have not completed high school and leads to a high school equivalency diploma issued by the North Carolina Department of Community Colleges.

• Admission to the program requires that an individual be eighteen years of age. A pre-test is administered to evaluate performance levels and determine whether the person is ready for the GED tests or whether preparation is needed through GED classes.

• To earn the GED diploma, a person must pass five individual tests: writing skills (including a written essay), mathematics, science, social studies, and literature.

• Individuals needing to prepare for the GED tests enroll for classes on the Central Campus or in off-Campus centers. These classes allow students to progress at their own pace and to schedule attendance to best suit their needs.

• There is no charge for pre-testing or for GED classes. Students may purchase books to assist with their studies. A fee of $7.50 is charged for the GED tests.

• For more information, call (704)342-6949.

English As a Second Language (ESL)

The English as a Second Language program prepares non-native speakers of English to function successfully in institutions of higher education in the United States. Coursework provides knowledge and practice of academic reading, grammar, listening and speaking, and composition. Among other skills, students learn to make presentations to groups, write a research paper, and take notes from classroom lecturers. Attention is also paid to the student's cultural awareness, particularly that of the academic environment.

Certificate Awarded

A CPCC certificate will be awarded by the Department for satisfactory completion of the second and fourth levels.

For More Information

For more information, call the Program Director - (704) 342-6732 or the English and Foreign Languages Department - (704) 342-6506.

The first step to enroll:

Call the Welcome Center – 704/342-6719

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ESL 9514	Grammar I	4	2	5
ESL 9507	Listening-Speaking I	4	2	5
ESL 9510	Reading I	4	2	5
ESL 9546	Composition I	5	0	5
				20
SECOND QUARTER				
*ESL 9515	Grammar II	4	2	5
*ESL 9508	Listening-Speaking II	4	2	5
*ESL 9511	Reading II	4	2	5
				20
THIRD QUARTER				
*ESL 9516	Grammar III	5	0	5
*ESL 9509	Listening-Speaking III	5	0	5
*ESL 9412	Reading III	4	0	4
*ESL 9548	Composition III	5	0	5
				19
FOURTH QUARTER				
*ESL 9417	Grammar IV	4	0	4
*ESL 9410	Listening-Speaking IV	4	0	4
*ESL 9413	Reading IV	4	0	4
*ESL 9549	Composition IV	5	0	5
				17

Total Credit Hours for Program 76

ESL ELECTIVES
ESL 9200 Pronunciation
*ESL 9240 TOEFL Preparation
ESL 9307 American Idioms

*Prerequisite required; check course description

Advancement Studies

Advancement Studies is a program for students who have not reached college-level English, reading, mathematics, biology, chemistry, writing, or study skills.

The philosophy of the Advancement Studies Department is that each student has unique educational needs and goals. Once these goals are identified, they can best be reached by allowing students to progress in an open, caring atmosphere.

Each course in the Advancement Studies Department has stated objectives and a system to help students accomplish those objectives. Instructors coordinate each learning segment.

For a complete description of Advancement Studies courses numbered 9000, BIO, CEM, CHM, DEN, DRG, EDU, ENG, GEN, LLB, MAT, PTL, and RDN, see the course descriptions .

For more information, call 704/342-6702 or 6907.

Pre-College Course Descriptions

Basic Studies

ABE - Adult Basic Education

(Also see courses with LEP prefix.)

ABE 6001 Adult Basic Education Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short vowel sounds; identify long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences and apply topics to everyday life; add and subtract one-digit to multi-digit numbers; multiply one- to three-digit numbers; subtract from zero and multiply with zeros; divide one- to three-digit numbers.

ABE 6002 Adult Basic Education Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes, and suffixes; select appropriate meanings of words; form sentences from phrases; identify the main idea, topic sentences, and details that support the main idea; add, subtract, multiply, and divide fractions, mixed numbers and decimals; find the percent of the number and determine what percent one number is of another; identify ratios and how to solve a proportion; compute with measures; add, subtract, multiply, and divide positive and negative integers.

ABL - Adult Basic Literacy Education

(Also see courses with LEP prefix.)

ABL 6003 Basic Reading Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short vowel sounds; identify long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences, and apply topics to everyday life.

ABL 6013 Basic Reading Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes and suffixes; select appropriate meanings of words; form sentences from phrases; identify the main idea, topic sentences, and details that support the main idea.

ABL 6004 Basic Math Level I: Upon completion of this course, students should be able to add and subtract one-digit to multi-digit numbers; multiply one- to three-digit numbers; divide one- to three-digit numbers; subtract from zero and multiply with zeros.

ABL 6014 Basic Math Level II: Upon completion of this course, students should be able to add, subtract, multiply and divide fractions, mixed numbers and decimals; find the percent of the number and determine what percent one number is of another; identify ratios and how to solve a proportion; compute with measures; add, subtract, multiply, and divide positive and negative integers.

English as a Second Language

ESL 9200 Pronunciation: Upon completion of this course, students should recognize common rhythm patterns of English speech, as well as the differences between certain sounds which commonly cause problems for non-native speakers of English. In addition, they should have improved their own ability to pronounce these patterns and sounds, making it easier to communicate with Americans. (2-0) 2

***ESL 9240 TOEFL Preparation:** This course provides practice with sample TOEFL examinations, analysis of those examinations, awareness of test-taking techniques, and familiarity with reference works which help prepare students for the TOEFL. Upon completion of the course, students should be familiar with the TOEFL format, have identified areas of weakness within their English competency, and have fine-tuned particular aspects of their knowledge of English.
*Prerequisite: ESL 9515, placement test, or Departmental consent (2-0) 2

ESL 9307 American Idioms: This intermediate course is designed to teach non-native students the special meaning conveyed through idiomatic expressions. Upon completion of the course, students should be able to define the idioms when they are used in reading passages and conversation, and use the idioms correctly in both speech and writing. (3-0) 3

***ESL 9410 Listening/Speaking IV:** Designed for advanced non-native students, this course teaches notetaking from lectures. Upon completion of this course, students should be able to understand short lectures on academic subjects; differentiate between main points, supporting information, and extraneous information; and take down this information in organized notes.
*Prerequisite: ESL 9509, placement test, or Departmental consent. (4-0) 4

***ESL 9412 Reading III:** This is a high-intermediate reading course for non-native speakers of English. Upon completion, students should be able to recognize basic patterns of organization in English on a paragraph- and composition-level; identify main ideas; make inferences and draw conclusions; guess word meanings from context; and skim and scan.
*Prerequisite: ESL 9511, placement test, or Departmental consent. (4-0) 4

***ESL 9413 Reading IV:** This course is designed to refine the reading skills of advanced non-native speakers of English. Upon completion of the course, students should be able to use stems and affixes to analyze the meaning of words; use advanced knowledge of English grammar to follow the flow of ideas in a written passage; identify the meaning of new vocabulary from context; read academic passages and correctly identify referents, details, inferences, and main ideas.
*Prerequisite: ESL 9412, placement test, or Departmental consent. (4-0) 4

***ESL 9417 Grammar IV:** This course is designed to teach advanced grammar to non-native speakers of English. Upon completion of this course, students should be able to check for errors in the finer grammatical points of agreement, pronouns subordination, verbals, word form, word order, parallel structure, and unnecessary repetition.
*Prerequisite: ESL 9516, placement test, or Departmental consent. (4-0) 4

ESL 9507 Listening/Speaking I: This course is designed to provide the non-English speaking person with basic language skills for essential daily conversation at CPCC and in the community. Upon completion of this course, students should be able to carry on simple conversations and understand common patterns of speech reduction as they occur in conversation. (4-2) 5

***ESL 9508 Listening/Speaking II:** An intermediate level listening/speaking course for non-native speakers of English. Upon completion of this course, students should be able to hold extended conversations and, in intermediate listening exercises, identify main points, make inferences, and take notes on factual information.
*Prerequisite: ESL 9507, placement test, or Departmental consent. (4-2) 5

***ESL 9509 Listening/Speaking III:** This course is designed to increase the ability and confidence of high-intermediate international students in verbal expression and listening comprehension. Upon completion of this course, students should be able to express politely their feelings, preferences, and impressions; make a 5-minute presentation before a group; in listening exercises, identify main points, make inferences, and take notes on factual information.
*Prerequisite: ESL 9508, placement test, or Departmental consent. (5-0) 5

ESL 9510 Reading I: This course introduces non-native speakers of English to reading English through the use of short, simple passages. Upon completion, students should be able to identify main ideas, make inferences, and locate details in short articles using basic vocabulary. (4-2) 6

***ESL 9511 Reading II:** This course develops the skill of non-native students in reading English through the use of intermediate-level passages about American culture. Upon completion, students should be able to better understand American values and behavior, and also be able to identify main ideas, make inferences, locate details, and guess word meaning from context.
*Prerequisite: ESL 9510, placement test, or Departmental consent. (4-2) 5

ESL 9514 Grammar I: This course introduces the non-native student to the fundamentals of English grammar. Upon completion of this course, students should be able to use common verbs, nouns, and adjectives in written and oral statements and questions; demonstrate knowledge of simple present, past, and future tenses, as well as present progressive tense; and distinguish between count-and non-count nouns. (4-2) 5

***ESL 9515 Grammar II:** This course is designed to increase the basic English grammar skills of non-native students. Upon completion of this course, students should be able to discrimi-

nate correctly between the use of the progressive and perfect forms of tenses; form and use the present perfect and past perfect; understand and use basic modal verbs, including selected past-time forms; form and use the passive voice in all tenses; produce sentences which include simple noun clauses and adjective clauses.
*Prerequisite: ESL 9514, placement test, or Departmental consent. (4-2) 5

***ESL 9516 Grammar III:** Upon completion of this course, non-native students should be able to use English adverb clauses of time, cause and effect, unexpected result, and direct opposition; express ideas of reported speech; use advanced modal auxiliaries; choose between use of gerunds and infinitives; and express real and unreal conditions in the past, present, and future.
*Prerequisite: ESL 9515, placement test, or Departmental consent. (5-0) 5

ESL 9546 Composition I: This course enables non-native students to integrate basic English vocabulary and grammar in simple compositions. Upon completion of the course, students should be able to use simple sentences, basic transitions, and beginning vocabulary to write 3-4 paragraph narratives and descriptions. (5-0) 5

***ESL 9547 Composition II:** An intermediate English composition class, this course helps bridge the gap between language and academic content courses. Upon completion, students should be able to read, discuss, and respond in writing to intermediate-level texts in the social sciences, applied sciences, and humanities.
*Prerequisite: ESL 9546, placement test, or Departmental consent (5-0) 5

***ESL 9548 Composition III:** A high-intermediate English composition course for non-native students. Upon completion, students should be able to write summaries, critiques, reports, and a controlled term paper.
*Prerequisite: ESL 9547, placement test, or Departmental consent. (5-0) 5

***ESL 9549 Composition IV:** This course is designed to prepare non-native students for freshman composition. Upon completion of this course, students should be able to discriminate among, as well as produce, writings in various organizational formats, such as narration, description, comparison/contrast, cause/effect, process, and classification; use research resources to obtain factual information; and avoid plagiarism.
*Prerequisite: ESL 9548, placement test, or Departmental consent. (5-0) 5

GED - General Educational Development

GED 6001 General Educational Development: This course prepares students to pass the final GED test. Based on a pre-test, instruction is tailored to meet needs of the individual student either in structured classes on the Central Campus or on an individualized basis at Area Centers.Students complete the course when they earn a cumulative score of 250 on the post-test and/or are certified by the instructor.

HSD - Adult High School

The courses listed below have been endorsed by the Charlotte-Mecklenburg School System. Based on a review of the individual's transcript, a student will be advised about the appropriate course(s) to take. Successful completion of selected course(s) will result in obtaining a diploma from Charlotte-Mecklenburg Board of Education through CPCC.

HSD 6002 High School Diploma English 108: English 108 introduces the basic study of grammar and develops writing mastery through the writing process. Types of writing include narrative and descriptive paragraphs and essays. Vocabulary development, reading comprehension, and oral communication skills are also introduced.

***HSD 6003 High School Diploma English 105:** This course expands on skills in reading, writing, and oral communication that were introduced in English 108. New concepts and skills are added to give students a basic foundation in English grammar, punctuation, and vocabulary. Students are expected to demonstrate a mastery of these skills in point-of-view essays.
*Prerequisite: English 108.

***HSD 6004 High School Diploma English 103:** Based on skills mastered in English 105, students will increase their knowledge of grammar, reading comprehension, and vocabulary by focusing on the following: the writing and punctuation of a variety of sentence types, a review of the parts of speech, the regular use of the newspaper, and a review of basic Latin and Greek roots and suffixes. A major emphasis in this course will be on persuasive writing.
*Prerequisite: English 105.

***HSD 6005 High School Diploma English 107:** In English 107, students review all grammar skills taught in English 108, 105, and 103 and begin to develop selected advanced skills. Literature is emphasized with a focus on understanding the definition and application of certain literary terms as found in selected passages. Writing includes the development of compare-and-contrast essays. Application of skills learned in all levels of English is stressed.
*Prerequisite: English 103.

***HSD 6012 High School Mathematics I:** This is the first half of a two-course sequence designed for students who have not mastered the basic skill of arithmetic. Topics covered include addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions. Special emphasis is placed on applying these skills to "real-life" situations and word problems. Continuation of studies in HSD 6013, Mathematics II, is required.
*Prerequisite: Placement Test.

***HSD 6013 High School Mathematics II:** This is a continuation of HSD 6012. Students who complete Mathematics II should be able to apply the skills developed in Mathematics I to the solution of word problems involving percent, interest, graphs, measurement, geometry, and elementary algebra. Upon completion of this two-course

sequence, one unit of mathematics is earned.
*Prerequisite: HSD 6012.

***HSD 6014 High School Mathematics III:** Upon completion of this course, students should be able to apply the four fundamental operations of arithmetic and elementary principles of algebra and geometry to the solution of problems involving percent, simple and compound interest, discount and commission, English and metric measures of length, mass, and volume, time and distance, statistical graphs (bar, circle and line), ratio and proportion, scale drawings, perimeter, area and volume of common geometrical figures, square root, the Pythagorean Theorem, and simple linear equations.
*Prerequisite: Placement Test.

HSD 6022 United States History: Upon completion of this course, students should be able to interpret major events occurring in American history from 1865 to the present. Topics will include the Reconstruction, industrial development, development of foreign policy from 1865 to 1920, social, political and economic changes in the 20th Century, and post-World War II foreign policy development resulting in the Cold War.

HSD 6023 Government and Economics: This course is designed to give students a basic overview of critical issues related to government and economics. The study of government includes discussion of national government, its structure and purposes, the individual's role, the three branches of government, and a study of the Constitution. The study of economics involves a discussion of key economic systems and their influence on public issues. Application of these concepts to current events and practical situations is emphasized throughout the course.

HSD 6032 General Science: Upon completion of this course, students should be able to demonstrate an understanding of basic physical science concepts. Topics will include study of the atom, environmental issues, magnetism/electricity, matter, forms of energy (heat, light, sound, nuclear, solar). Application to the everyday world is emphasized throughout the course.

HSD 6033 Biology: Upon completion of this study of basic biological concepts and principles, students should be able to demonstrate an understanding of the nature of living things, structures/activities of plants, classification system, human body (nutrition, reproduction, heredity, evolution and human diseases), and structure of the cell.

Limited English Proficiency - LEP

LEP 6001 Limited English Proficiency Level I: Upon completion of this initial survival English course, international students should be able, in English, to ask and respond to simple questions; follow simple oral instructions; fill out simple forms; identify and read money amounts; read abbreviations; identify letters, letter combinations, and the sounds they represent; read and write a simple sentence, read a paragraph; add, subtract, multiply, and divide whole numbers through a content-based approach to learning English skills.

LEP 6002 Limited English Proficiency Level II: Upon completion of this second-level daily living English course, international students should be able, in English, to understand the use of punctuation marks; read and follow directions; read silently and answer questions; use context clues in reading; write a paragraph, add subtract, multiply, and divide fractions, decimals, and percentages; solve problems involving ratio and proportion; interpret and respond appropriately to questions on application forms for citizenship and amnesty through a content-based approach to learning English skills.

LEP 6003 Limited English Proficiency Level III: Upon completion of this third-level survival English course, international students should be able, in English, to participate in conversations at an advanced level on a variety of everyday topics, to understand and use correctly complex grammatical structures, and to read, write, and comprehend materials composed of multiple paragraphs.

Advancement Studies

BIO – Biology

***BIO 9500 Introduction to Biology:** This course is designed for students who need to update or review basic concepts in Biology. Upon completion, students should be able to demonstrate an understanding of six of the following units: Cell Structure and Function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and Photosynthesis, Microbiology, Human Anatomy, Classification, Embryology, Nutrition, Ecology.
*Highly recommended prerequisite or corequisite: EDU 9300.
(5-0) 5

CHM – Chemistry

***CHM 9500 Fundamentals of Chemistry:** This course is designed to provide students with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Technology students, Fire Protection Technology and other technical program students will benefit from completing this course.
*Highly recommended prerequisite or corequisite: EDU 9300.
(5-0) 5

DRG – Drug Administration

***DRG 9502 Basic Calculation for Drug Administration:** A mathematics and systems preparation course for students who will enter ANY of the health curricula. Mathematics framework, metric system, apothecaries' system, ratio and proportion, temperature conversions, household system, tablet dosages, solutions, and insulin dosages are the units available for study.
*Prerequisite: Completion of MAT 9500 or consent of the instructor. EDU 9300 Effective Learning Skills is highly recommended as a prerequisite or corequisite. (5-0) 5

EDU – Education

EDU 9300 Effective Learning Skills: Upon completion of this course, students should be able to demonstrate

college-level techniques of effective study habits which include time management, listening and taking notes, mastering textbooks, concentration and remembering, and taking exams; explain the use of College publications, the procedures for registration and for obtaining the benefits of the resources available at CPCC. (3-0) 3

ENG – English

ENG 9500 Learning to Write: This introductory course is designed to provide students with an introduction to writing techniques, grammar labs, introduction to the use of word processors, helping groups, sentence combining, and discovering and improving the student's writing process. The course is designed to meet the needs of students who lack the necessary English grammar background to express themselves in sentences. When students have completed ENG 9500, they should be able to write clear, concise, and correctly punctuated sentences both in singular sentence form and within paragraphs. (5-0) 5

ENG 9505 Spelling and Vocabulary: This is a course designed to teach students how to pronounce speech sounds, how to pronounce words, and how to spell. The course consists of a careful study of speech sounds, their common spellings and production, a study of spelling rules, and a vocabulary study which is relevant to the student's program, as well as practice exercises. Upon completion of this course, a student's spelling, pronunciation, and vocabulary of standard English should have improved significantly. (5-0) 5

***ENG 9510 Fundamentals of Writing:** This course is designed to meet the needs of students who are preparing to enter college transfer, technical or communication courses. However, any student may enroll. Upon completion of this course, students should be able to demonstrate that they have developed effective communication skills by writing and proofreading paragraphs and themes.
*Prerequisite: A grade of at least C in ENG 9500 or an appropriate placement test score on the English placement test. (5-0) 5

MAT – Mathematics

MAT 9500 Arithmetic I: This course is designed to provide additional information and practice for individuals who have not yet mastered the basic skills of arithmetic. This course covers the topics of whole numbers, fractions, decimals, introduction to percents and measurements used in the United States. (5-0) 5

***MAT 9501 Arithmetic II:** This course provides an opportunity to gain knowledge, application, and skills in basic mathematics that are necessary for entry into many programs at CPCC. This course is designed to meet the needs of all students who have mastered the skills level of MAT 9500 (Arithmetic I). MAT 9501 focuses on such topics as ratio and proportion, percent application, metric system, geometry, graphs, and introduction to algebra.
*Prerequisite: A grade of at least C in MAT 9500 or an appropriate placement test score on the CPCC Arithmetic Placement Test. (5-0) 5

***MAT 9502 Developmental Algebra I:** This is a course designed for students who have not had high school Algebra I or for those whose Algebra Placement Test at CPCC indicates a need to review Algebra I. Upon completion of MAT 9502, students should be able to solve problems relating to the language and symbolism of algebra, elementary set theory, algebraic properties of the real numbers; find solutions of first degree equations; plot graphs of linear equations; find solutions of linear equations by graphing and algebraic methods; factor polynomial expressions; solve fractional equations; and simplify radicals. Students will take MAT 9510 after completing MAT 9502 before advancing to college or technical mathematics.
*Prerequisite: A grade of at least C in MAT 9501 or an appropriate score on the CPCC Arithmetic or Algebra Placement Test. (5-0) 5

***MAT 9510 Developmental Algebra II:** This is a course designed for students whose algebraic background is limited to the equivalent of high school Algebra I or for those whose Algebra Placement Test at CPCC indicates a need to review algebra before entering college or technical mathematics. Upon completion of MAT 9510, students should be able to solve first degree equations and inequalities in one variable both graphically and algebraically; graph first degree inequalities in one variable; factor quadratics; simplify second and third order radicals; simplify expressions involving integer or other rational exponents; solve rational equations; solve second order radical equations; solve quadratic equations having real roots (by factoring, completing the square, and using the quadratic formula); utilize a scientific calculator to evaluate powers or roots and rearrange formulas. Upon completion, students should be prepared for MAT 3504 if in Business Data Processing Technology, MAT 3507 if in Engineering Technology, or MAT 1504 if in the College Transfer program.
*Prerequisite: A grade of at least C in MAT 9502 or an appropriate score on the CPCC Algebra Placement Test. (5-0) 5

***MAT 9511 Modern Geometry:** This is a lecture course stressing plane geometry, with a brief coverage of trigonometry and solid geometry. The course is designed for students who need a review of high school geometry or who never took high school geometry. Upon completion, students should be able to do simple proofs; solve problems relating to triangle congruence and similarity; do the basic geometric constructions; use a scientific calculator or table to evaluate a trigonometric function or find the missing angle; find missing parts of a right triangle by trigonometry (including use of a scientific calculator); find perimeter/area/volume of certain geometric figures; and work with parallel lines.
*Prerequisite: A grade of at least C in MAT 9502 or an Algebra Placement Score sufficient to enter MAT 9510 or beyond. It may be taken concurrently with MAT 9510, MAT 3504, MAT 3507, MAT 1504 or MAT 1514. (5-0) 5

PTL – Peer Tutoring

PTL 9000 Peer Tutoring Lab: This lab experience is designed to provide an opportunity for students to receive tutoring help from other students in their course work, plus additional instruction in study skills. The goal is to increase efficiency and effectiveness in academic endeavors of all persons involved. Tutoring is available in the majority of course areas. (0-3) 0

RDN – Reading

RDN 9130 Basic Reading Skills: This individualized reading course is designed for students who need basic reading skills. Upon completion of this course, students should be able to demonstrate a sixth grade reading level on a standardized test; mastery of basic phonics; and mastery of meaning of a passage written on a sixth grade level. (0-3) 1

RDN 9212 Reading for College: This course is designed to provide students preparing for college with basic study skills and reading rate improvement. Upon completion, students should demonstrate increased reading, vocabulary, and comprehension efficiency, as well as improved study skills that include textbook reading, preparation for tests, and note taking. (2-0) 2

RDN 9312 Speed Reading: This course is designed to meet the needs of students and members of the community who want to increase speed in reading. Upon completion of this course, students should demonstrate a 100% increase in reading rate while maintaining an 80% level of comprehension as assessed by a standardized reading test. (3-0) 3

RDN 9502 Building Word Power: This is a reading course for adults who want basic vocabulary development in a structured, but flexible course to help them succeed in other reading, English, and math developmental courses. Upon completion of this course, students should demonstrate knowledge of common Latin and Greek roots and prefixes, including mastery of root and prefix meanings, identification and use of word derivatives in English, and application to new vocabulary. (5-0) 5

RDN 9505 Reading Skills: This course is designed for adults who need fundamental skill development to understand and learn from written material. Upon completion of this course, students should demonstrate mastery of basic vocabulary, comprehension, and study skills. (5-0) 5

***RDN 9510 Reading Improvement:** Upon completion of this course, students should be able to implement a system for long-range vocabulary development; find main ideas in given passages; draw inferences from those ideas; evaluate conflicting ideas to discover bias; and comprehend college-level textbooks.
*Prerequisite: RDN 9505 or an appropriate placement test score. (5-0) 5

College-Level Programs

College-Level Programs

Associate in Applied Science (A.A.S) Degrees, Diplomas, & Certificates

Introduction

The programs in the following section are primarily designed for students who intend to enter the workforce without transferring to a four-year college or university. Notations about transferability of some A.A.S. programs are included in program descriptions where this applies.

Some two-year degree programs also have one-year diplomas, as well as certificates that require less than one year of full-time study. These appear in the alphabetical listing of programs contained in this Catalog section.

Requirements

Associate in Applied Science Degrees

– Completion of a minimum of 97 quarter credit hours including the required courses in the student's program of study. A minimum of 32 quarter credit hours must be earned at CPCC, 16 of which must be the final credit hours prior to graduation;

– Completion of a minimum of 32 additional quarter credit hours if the student has previously earned an Associate in General Education Degree;

– Official copies of high school and all other college/university transcripts must be in the student's folder in the Student Records Office.

Associate in Applied Science Degrees are awarded in Accounting; Administrative Office Technology (Secretary – Executive); Air Conditioning, Heating and Refrigeration Technology; Air Conditioning and Heating Service Technology; Architectural Technology; Automotive Service Technician; Automotive Technology; Banking and Finance; Basic Law Enforcement; Bookkeeping/Clerical; Business Administration; Civil Engineering Technology; Commercial Art/Advertising Design; Computer Engineering Technology; Computer Programming, Business; Correctional and Juvenile Services; Dental Hygiene; Early Childhood Associate; Electrical Engineering Technology; Electronics Engineering Technology; Fashion Merchandising and Marketing; Fire Protection Technology; Foodservice Management (Chef Training); Graphic Arts – Printing Management; Horticulture Technology; Hotel/Restaurant Management; Industrial Management Technology; Industrial Safety, Security and Health Management Technology; Insurance; Interior Design; International Business; Interpreter Training; Law Enforcement Technology; Manufacturing Engineering Technology; Marketing and Retailing; Mechanical Engineering Technology; Medical Assisting; Medical Records; Medical Office Technology (Secretary – Medical); Microcomputer Systems Technology; Nursing, Associate Degree (Registered Nursing); Paralegal Technology; Physical Therapist Assistant; Postal Service Technology; Real Estate; Respiratory Care Technology (Therapists and Technicians); Secretarial – Legal; Social Services Associate; Surveying Technology; Traffic and Transportation; Travel and Tourism.

Diplomas

– Completion of a minimum of 64 quarter credit hours of required courses in the student's program of vocational career study;

– The final 15 quarter credit hours must be earned at CPCC;

– Official copies of high school and all other college/university transcripts must be in the student's folder in the Student Records Office.

Diplomas are awarded in Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Computer Operations; Dental Assisting; Diesel Vehicle Maintenance; Electrical Installation and Maintenance; Foodservice (Chef Training); Graphic Arts – Printing; Horticulture; Machinist; Mechanical Drafting; Medical Assisting; Nursing, Practical; Welding.

Certificates

– Course requirements for specialization certificates are listed with the degree/diploma programs to which the certificates belong.

Specialization certificates are awarded in the following programs: Air Conditioning, Heating and Refrigeration Technology; Air Conditioning and Heating Service Technician; Automotive Body Repair; Automotive Mechanics; Banking and Finance; Diesel Vehicle Maintenance; Early Childhood; Electrical Installation and Maintenance; Graphic Arts – Printing; Medical Assisting; Postal Service Technology; Social Service Associate; Welding.

Accounting (T016)

Official Program Description registered with the N.C. Department of Community Colleges:

The purpose of the Accounting curriculum is to prepare the individual to enter the accounting profession through study of accounting principles, theories and practices with related study in law, finance, management, and data processing operations.

The curriculum is designed to prepare the individual for entry-level accounting positions such as junior accountant, bookkeeper, accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, the individual will be able to advance to positions such as systems accountant, cost accountant, budget accountant, and property accountant.

Degree Awarded

The Associate in Applied Science Degree – Accounting is awarded by the College upon completion of this program.

Note

Students interested in transferring to a senior institution should enroll in the 1000- and 2000-level mathematics and English courses noted in the footnotes that follow. Students should also consult with a Faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Accounting program is in the Accounting/Public Safety Department. For more information, call the Program Director – 704/342-6545, weekdays, 7:30 a.m.-4:30 p.m. Program Coun-

selors can be reached a 704/342-6426 or 6229.

Admissions

- High School Diploma or equivalent is required.
- CPCC placement tests are required in English, mathematics, and reading.
- A counseling/orientation appointment follows placement testing or a review of the student's transcript indicate completion of courses requiring a placement test.

First step to enroll:

Call the Welcome Center – 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
ACC 1604 Principles of Accounting I	5	2	6
EDP 3310 Microcomputer Operations	2	2	3
* ENG 1504 English Composition I	5	0	5
[1] FIN 3314 Business Mathematics I	3	0	3
			17
SECOND QUARTER			
* ACC 1605 Principles of Accounting II	5	2	6
* EDP 3324 Advanced Microcomputer Operations	2	2	3
[2]* ENG 3405 Technical English II	4	0	4
[1]* FIN 3315 Business Mathematics II	3	0	3
			16
THIRD QUARTER			
* ACC 2626 Intermediate Accounting I	5	2	6
ECO 2304 Economics I	3	0	3
* EDP 3215 Microcomputer Software LOTUS 1-2-3	1	2	2
* FIN 4334 Business Finance I	3	0	3
[3] Math or Laboratory Science Elective	3	0	3
			17
FOURTH QUARTER			
* ACC 2627 Intermediate Accounting II	5	2	6
ECO 2305 Economics II	3	0	3
* ACC 4414 Microcomputer Accounting – General Ledger	2	4	4
* FIN 4335 Business Finance II	3	0	3
			16
FIFTH QUARTER			
* ACC 4415 Microcomputer Accounting – Spreadsheets	2	4	4
ACC 4434 Taxes – Individual	3	2	4
* ACC 4444 Cost Accounting	3	2	4
SEC 3104 Electronic Calculators	0	2	1
[4] Technical Elective	4	0	4
			17
SIXTH QUARTER			
* ACC 4425 Taxes – Business & Fiduciary	3	2	4
* ACC 4447 Advanced Accounting	3	2	4
BUS 2304 Business Law I	3	0	3
[5] Humanities Elective	3	0	3
[4] Technical Elective	3	0	3
			17
SEVENTH QUARTER			
* ACC 4404 Auditing	3	2	4
* BUS 2305 Business Law II	3	0	3
SPH 1300 Oral Communications	3	0	3
[4] Technical Elective	3	0	3
Free Elective	3	0	3
			16
Total Credit Hours			116

* Prerequisite or corequisite required; check course description.

[1] MAT 1504, MAT 1505, or MAT 1514 may be taken if student has met placement test requirements.

[2] ENG 1505 is recommended for students who may later decide to transfer to a senior institution.

[3] MATH OR LABORATORY SCIENCE ELECTIVES – MAT, BIO, CHM, GEL, GEO, or PHY prefixes

[4] TECHNICAL ELECTIVES
With the approval of an adviser, students may select ten hours from the following: (SEC 3404 is required if the student has not had a typing course).

* ACC 4284 Cooperative Work Experience I
* ACC 4285 Cooperative Work Experience II
ACC 4308 International Accounting
BUS 1500 Introduction to Business
* BUS 2306 Business Law III
BUS 3304 Business Statistics
* COE 3100 Introduction to Cooperative Education
FIN 3303 Personal Investing
* EDP 2525 Introduction to Business Computing
* EDP 3217 Microcomputer Software – Data Base
* EDP 3335 Microcomputer Programming – MS/DOS
* FIN 4317 Financial Statement Analysis
* FIN 4336 Financial Management
FIN 4350 Personal Financial Management
SEC 3303 Keyboarding

[5] HUMANITIES ELECTIVE – ART, DRA, ENG, FRE, GER, HUM, MUS, PHI, SPA, or SPH prefixes

Administrative Office Technology (T030)

Official Program Description registered with the N.C. Department of Community Colleges:

This curriculum prepares individuals to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word/ information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are developed in the areas of electronic document storage and retrieval and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as in local, state, and federal government.

Degree Awarded

The Associate in Applied Science Degree – Administrative Office Technology is awarded by the College upon completion of this program.

Note

A suggested sequence of required courses for full-time students is listed below.

For More Information

The Administrative Office Technology program is in the Computer and Office Information Systems Department. For

more information, call the Program Director – 704/342-6781, the Program Counselors- 704/342-6426 or 6229, or the Department office – 704/342-6549, weekdays, 9 a.m.-4 p.m.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3302	Effective Word Techniques	3	0	0	3
SEC 4324	Information Processing Concepts	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
ENG 3515	Essentials of Grammar	5	0	0	5
BUS 1500	Introduction to Business	5	0	0	5
					19
SECOND QUARTER					
* SEC 3405	Document Formatting I	3	2	0	4
SEC 3320	Personal Projections	3	0	0	3
SEC 3414	Shorthand I	3	2	0	4
ENG1504	English Composition I	5	0	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
					19
THIRD QUARTER					
SEC 3305	Editing, Proofreading & Reference Skills	3	0	0	3
SEC 4370	Records Management	3	0	0	3
* SEC 4429	Word Processing I	3	2	0	4
* SEC 3415	Shorthand II	3	2	0	4
FIN 3314	Business Mathematics	3	0	0	3
[1]	General Education Elective				3
					20
FOURTH QUARTER					
* SEC 4305	Business Communications	3	0	0	3
* SEC 4430	Word Processing II	3	2	0	4
* SEC 3416	Shorthand III	3	2	0	4
* SEC 3406	Document Formatting II	3	2	0	4
* EDP 3324	Advanced Microcomputer Operations	1	4	0	3
* SEC 4201	Secretarial Cooperative Experience I	0	0	20	2
					20
FIFTH QUARTER					
* SEC 3104	Electronic Calculators	0	2	0	1
* SEC 4425	Machine Transcription	3	2	0	4
* SEC 4517	General Office Procedures	5	0	0	5
* SEC 4407	Document Production	3	2	0	4
BUS 3300	Human Relations I	3	0	0	3
[2]	Technical Elective				3
					20
SIXTH QUARTER					
ACC 3600	General Accounting or				
ACC 1604	Principles of Accounting I	5	2	0	6
MGT4331	Administrative Office Management	3	0	0	3
SPH 2300	Voice and Diction	3	0	0	3
BUS 2304	Business Law I	3	0	0	3
ECO 3300	Introduction to Economics	3	0	0	3
Elective					1
					19

Total Credit Hours 117

*Prerequisite or corequisite required; check course description.

[1] GENERAL EDUCATION ELECTIVES to be chosen from ECO, ENG, PSY, SOC, or SPH prefixes.

[2] TECHNICAL ELECTIVES to be selected from:

* SEC 4400	Typing Skill Building	2	3	0	4
SEC 3311	Receptionist Skills	3	0	0	3

Air Conditioning, Heating and Refrigeration (V024)

Official Program Description registered with the N.C. Department of Community Colleges:

The Air Conditioning, Heating and Refrigeration curriculum is designed to teach knowledge and skills necessary for servicing and installing residential and light commercial climate control equipment. Instruction will include heating and cooling theory, applied electricity and electronics, and the operating principles for a wide range of heating and cooling equipment. The diploma program will emphasize start-up and service skills for oil, gas and electric furnaces, air-cooled air conditioning and air-to-air heat pumps.

Diploma Awarded

A Diploma in Air Conditioning, Heating and Refrigeration is awarded by the College upon completion of this program.

Graduates may apply for advanced standing in the Air Conditioning, Heating and Refrigeration Technology program.

For More Information

The Air Conditioning, Heating and Refrigeration program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6985, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center -704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5411	Air Conditioning, Heating and Refrigeration Fundamentals	4	0	4
PHY 5304	Shop Science I	2	2	3
				18
SECOND QUARTER				
* AHR 5314	Automatic Controls	2	3	3
* AHR 5321	Commercial Refrigeration Installation	2	3	3
* AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration Mechanics	4	0	4
				19

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
THIRD QUARTER				
* AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
* AHR 5230	Basic Electronics for Air Conditioning, Heating, & Refrigeration	2	0	2
* AHR 5333	Liquid Heat – 1-Pipe and 2-Pipe Systems	2	3	3
* AHR 5431	Air Conditioning – Residential/ Commercial	3	3	4
COM 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
				18
FOURTH QUARTER				
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5443	All Weather Systems - Conventional	3	3	4
* AHR 5444	All Weather Systems - Heat Pumps	2	6	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2
				16

Total Credit Hours.....71

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Certificates (V024–A, B, C, D; T036–A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Air Conditioning, Heating and Refrigeration (V024) program; the Air Conditioning and Refrigeration Technology (T036) program; and the Air Conditioning and Heating Service Technician (T215) program.

For More Information

For more information, call the Program Director – 704/342-6985, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Heating Service (V024-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5411	A/C, Heating & Refrigeration Fundamentals	4	0	4
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5312	Shop Practices	2	3	3
AHR 5301	Basic Electricity	3	0	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5204	Wiring Diags and Troubleshooting for A/C Systems	1	3	2
AHR 5394	Mechanical Codes	3	0	3

Total Credit Hours.....27

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Air Conditioning Service (V024-B)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	4	4
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
* AHR 5431	A/C – Residential/Commercial	3	3	4
* AHR 5314	Automatic Controls	2	3	3
AHR 5401	Basic Calculations for A/C, Heating and Ref.	4	0	4
AHR 5301	Basic Electricity	3	0	3
AHR 5394	Mechanical Codes	3	0	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5312	Shop Practices	2	3	3
* AHR 5204	Wiring Diags and Troubleshooting for A/C Systems	1	3	2

Total Credit Hours.....31

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Refrigeration Service (V024-C)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
* AHR 5314	Automatic Controls	2	3	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5301	Basic Electricity	3	0	3
AHR 5321	Commercial Refrigeration Installation	2	3	3
AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5312	Shop Practices	2	3	3
* AHR 5204	Wiring Diagramss and Troubleshooting for A/C Systems	1	3	2

Total Credit Hours.....33

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in All Weather Systems Service (V024-D

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
* AHR 5443	All Weather Systems - Conventional	3	3	4
* AHR 5444	All Weather Systems - Heat Pumps	2	6	4
* AHR 5314	Automatic Controls	2	3	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5301	Basic Electricity	3	0	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5313	Service Principles	2	3	3

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 5312	Shop Practices	2	3	3
* AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2

Total Credit Hours.....35

*Prerequisite or corequisite required; see course description.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Residential Air Conditioning Design (T036-A)

AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
* AHR 4325	A/C, Heating and Refrigeration Drawing and Sketching	1	4	3
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 5394	Mechanical Codes	3	0	3
* AHR 4361	Residential Air Distribution and Balance	2	2	3
* AHR 4452	Residential A/C Systems Design	3	2	4
AHR 5313	Refrigeration Service Principles	2	3	3

Total Credit Hours.....29

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Refrigeration Design (T036-B)

AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
* AHR 4325	A/C, Heating and Refrigeration Drawing and Sketching	1	4	3
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
* AHR 5321	Commercial Refrigeration Installation	2	3	3
* AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 4451	Commercial Refrigeration Systems Design	4	0	4
* AHR 5394	Mechanical Codes	3	0	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5312	Shop Practices	2	3	3

Total Credit Hours.....32

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Commercial Air Conditioning Design (T036-C)

AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5411	A/C, Heating, and Refrigeration Fundamentals	4	0	4
* AHR 4325	A/C, Heating and Ref – Drawing and Sketching	1	4	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
* AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
* AHR 4462	Commercial Air Distribution and Balance	3	2	4
* AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5312	Shop Practices	2	3	3

Total Credit Hours.....33

*Prerequisite or corequisite required; check course description.

Air Conditioning, Heating and Refrigeration Technology (T036)

Official Program Description registered with the N.C. Department of Community Colleges:

The Air Conditioning, Heating and Refrigeration Technology curriculum develops an understanding of the principles involved in designing, planning, installing, operating, troubleshooting and organizing maintenance of climate control equipment and systems. Graduates of the Air Conditioning, Heating and Refrigeration Technology curriculum should be able to assist in planning installations, designing systems and organizing maintenance and work scheduling. In addition, they should be able to assist in installing, servicing and operating environmental control systems in residential and commercial establishments.

Job opportunities exist with companies that specialize in residential, commercial and industrial air conditioning, heating and refrigeration systems, design, installation and service. The graduate should be able to assist in designing mechanical equipment, ductwork and electrical controls required in residential and commercial projects. With experience, the graduate should be able to design various air conditioning, heating and refrigeration systems and function efficiently in working with systems designers, engineers, mechanics, sales engineers and others in the field. The technician may be employed in areas of systems design, engineering assistance, estimating, sales, maintenance scheduling, installation and service management in the growing field of air conditioning, heating and cooling.

Degree Awarded

The Associate in Applied Science Degree – Air Conditioning, Heating and Refrigeration is awarded by the College upon completion of this program.

For More Information

The Air Conditioning, Heating and Refrigeration Technology program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6985, or the Department office – 704/342-6930, weekdays, 8 a.m.-

5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- High School Diploma or equivalent is required

First step to enroll:

Call the Welcome Center -704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5411	Air Conditioning, Heating and Refrigeration Fundamentals	4	0	4
PHY 5304	Applied Physics I	2	2	3
				18
SECOND QUARTER				
AHR 5314	Automatic Controls	2	3	3
* AHR 5321	Commercial Refrigeration Installation	2	3	3
* AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration Technicians	4	0	4
				19
THIRD QUARTER				
* AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
* AHR 5431	Air Conditioning-Residential/ Commercial	3	3	4
* ENG 1504	English Composition I	5	0	5
WLD5210	Basic Oxyacetylene Welding	1	3	2
'	Technical Elective			4
				17
FOURTH QUARTER				
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5443	All Weather Systems-Conventional	3	3	4
* AHR 5444	All Weather Systems-Heat Pumps	2	6	4
* ENG 3405	Technical English II	4	0	4
				18
FIFTH QUARTER				
* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 4361	Residential Air Distribution and Balance	2	2	3
* AHR 4452	Residential Air Conditioning Systems Design	3	2	4
* AHR 4463	Control Systems	3	2	4
EDP 3310	Microcomputer Operations	2	2	3
				17
SIXTH QUARTER				
* AHR 4451	Commercial Refrigeration Systems Design	4	0	4
* AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
* AHR 4462	Commercial Air Distribution and Balance	3	2	4
SPH 1300	Oral Communications	3	0	3
General Education Elective	(Humanities or Fine Arts)	3	0	3
				18
SEVENTH QUARTER				
* AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
* AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
* AHR 4471	Installation and Service Problems	2	6	4
General Education Electives:	(Social or Behavioral Science)	3	0	3
Free Elective		0	0	3
				16

Total Credit Hours 123

* Prerequisite or corequisite required; check course descriptions.

' TECHNICAL ELECTIVES

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* AHR 5230	Basic Electronics for Air Conditioning, Heating, and Refrigeration	2	0	2
* AHR 5333	Liquid Heat – 1-Pipe and 2-Pipe Systems	2	3	3
* AHR 5205	In Place Co-Op I	0	20	2
* AHR 5206	In Place Co-Op II	0	20	2

Note: Certificates that can be earned in the Air Conditioning, Heating and Refigeration Technology (T036) Program are listed after the Air Conditioning, Heating, and Refigeration (V024) Program.

Air Conditioning and Heating Service Technician (T215)

Official Program Description registered with the N.C. Department of Community Colleges:

The Air Conditioning and Heating Service Technician curriculum is comprised of technical and related instruction in the classroom and laboratories, cooperative education training in a related business or industry, and general academic subjects.

The Cooperative work phase of the program requires students to be employed in supervised air conditioning and heating service positions to receive on-the-job experience. The cooperative work phase of the program will be supervised and evaluated.

Graduates should be able to assist in the service of residential and commercial systems, in planning installations, designing systems, and organizing maintenance and work scheduling.

Degree Awarded

The Associate in Applied Science Degree – Air Conditioning and Heating Service Technician is awarded by the College upon completion of this program.

For More Information

The Air Conditioning and Heating Service Technician program is in the Technical Careers Department. for more information, call the Program Director – 704/342-6985, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

• High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center - 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
AHR 5401	Basic Calculations for Air Conditioning, Heating and Refrigeration Technicians	4	0	4
AHR 5411	Air Conditioning, Heating and Refrigeration Fundamentals	4	0	4
PHY 5304	Applied Physics I	2	2	3
AHR 5224	Air Conditioning, Refrigeration and Heating Blueprint Reading	1	2	2
				22
SECOND QUARTER				
* AHR 5346	Air Conditioning and Heating Service Co-Op I	0	0	3
				3
THIRD QUARTER				
AHR 5314	Automatic Controls	2	3	3
* AHR 5431	Air Conditioning-Residential/ Commercial	3	3	4
* AHR 5444	All Weather Systems-Heat Pumps	2	6	4
* AHR 5230	Basic Electronics for Air Conditioning and Heating	2	0	2
* AHR 5204	Wiring Diagrams and Troubleshooting for Air Conditioning Systems	1	3	2
* ENG 1504	English Composition I	5	0	5
				20
FOURTH QUARTER				
* AHR 5347	Air Conditioning and Heating Service Co-Op II	0	0	3
				3
FIFTH QUARTER				
* AHR 5323	Oil Burners	2	3	3
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5443	All Weather Systems-Conventional	3	3	4
* ENG 3405	Technical English II	4	0	4
EDP 3310	Microcomputer Operations	2	2	3
				20
SIXTH QUARTER				
* AHR 5348	Air Conditioning and Heating Service Co-Op III	0	0	3
				3
SEVENTH QUARTER				
* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 4452	Residential Air Conditioning Systems Design	3	2	4
* AHR 4361	Residential Air Distribution and Balance	2	2	3
* AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
* AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
	General Education Elective OR Social Science OR Behavioral Science			3
	Elective	3	0	3
				22
EIGHTH QUARTER				
* AHR 5349	Air Conditioning and Heating Service Co-Op IV	0	0	3
				3
NINTH QUARTER				
* AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
* AHR 4462	Commercial Air Distribution and Balance	3	2	4
	General Education Elective (Humanities or Fine Arts)	3	0	3
* AHR 5394	Mechanical Codes	3	0	3
SPH 1300	Oral Communications	3	0	3
				17

Total Credit Hours 113

* Prerequisite or corequisite required; check course descriptions.

Note: Certificates that can be earned in the Air Conditioning and Heating Service Technician (T215) Program are listed after the Air Conditioning, Heating, and Refigeration (V024) Program.

Architectural Technology (T041)

Official Program Description registered with the N.C. Department of Community Colleges:

The Architectural Technology curriculum provides individuals with knowledge and skills that will lead to employment and advancement in the field of architectural technology. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained or continue toward an advanced degree in an associated field of technology. Architectural technicians translate the architect's design sketches into complete and accurate plans and drawings for construction purposes. The technician will be involved in work requiring a knowledge of drafting, construction materials, mechanical and structural systems, estimating, building codes and specifications. Initial employment opportunities exist with architectural and engineering firms, private utilities, contractors, and municipal governments.

Degree Awarded

The Associate of Applied Science Degree – Architectural Technology is awarded by the College upon completion of this program.

Program Accreditation

The Architectural Technology Program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The curriculum at Central Piedmont Community College includes emphasis on computer-aided drafting (CAD) and related computer courses to prepare graduates for employment in the expanding CAD area. Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

The Architectural Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881 or the Program Director – 704/342-6548 or 6913, weekdays, 8 a.m.-5 p.m.

Admissions

- High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- A High School Diploma or equivalent is required.
- Placement tests in English and mathematics determine entry-level courses that match individual needs. Advancement studies (9000-series) math and English courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ARC 3334	Architectural Drafting I: Basic	1	6	3
* MAT 3507	Engineering Technology Math I	5	0	5
* ENG 1504	English Composition I	5	0	5
ARC 3200	Introduction to Architecture	2	0	2
CIV 3306	Construction Materials and Methods	2	3	3
				18
SECOND QUARTER				
* ARC 3335	Architectural Drafting II: Residential and Light Commercial	1	6	3
* ARC 3314	Architectural Computer Drafting I	1	6	3
* MAT3508	Engineering Technology Math II	5	0	5
* ENG 3405	Technical English II	4	0	4
ARC 4200	Architectural Blueprint Reading and Specifications	1	3	2
				17
THIRD QUARTER				
* ARC 3336	Architectural Drafting III: Commercial	1	6	3
* ARC 3315	Architectural Computer Drafting II	1	6	3
* PHY 1404	Physics I – Basic Mechanics	3	2	4
* CIV 3407	Surveying I	2	6	4
EDP 3310	Microcomputer Operations	2	2	3
				17
FOURTH QUARTER				
* ARC 4337	Architectural Drafting IV: Site Planning	1	6	3
* ARC 4300	Architectural-Mechanical Equipment	2	3	3
* PHY 1405	Physics II – Elastic and Thermal Properties of Matter	3	2	4
* MAT3509	Engineering Technology Math III	5	0	5
* CIV 3414	Statics and Strength of Materials – Basic	3	3	4
				19
FIFTH QUARTER				
* ARC 4338	Architectural Drafting V: Mechanical, Electrical, Plumbing	1	6	3
* PHY 1406	Physics III – Electricity and Magnetism	3	2	4
* CIV 3424	Statics and Strength of Materials – Advanced	3	3	4
* ARC 3316	Architectural Computer Drafting III	1	6	3
Arts/Humanities Elective		3	0	3
				17
SIXTH QUARTER				
* ARC 4339	Architectural Drafting VI: Structural	1	6	3
* CIV 4300	Codes and Contracts	2	3	3
* CIV 4305	Construction Estimates	2	3	3
* CIV 4425	Structures I	3	3	4
SPH 1300	Oral Communications	3	0	3
* ARC 4202	Architectural Specifications Development	1	3	2
				18
SEVENTH QUARTER				
* ARC 4340	Architectural Drafting VII	1	6	3
* CIV 4426	Structures II	3	3	4
Behavioral/Social Science Elective		3	0	3
' Technical Elective				3
Free Elective		3	0	3
				16

Total Credit Hours 122

* Prerequisite or corequisite required; check course description.

' SUGGESTED TECHNICAL ELECTIVES

* ARC 3217 Architectural Computer Drafting IV
* ARC 3306 Residential Standards
* ARC 3319 Advanced AutoCAD System
* ARC 3326 Residential Design
* ARC 4284 Cooperative Work Experience I
* ARC 4302 Architectural Model Construction
ARC 4310 Energy Efficiency and Passive Solar Design
* ARC 4345 Architectural Presentation Drawing
* CIV 4302 Plain Concrete and Asphalt

Automotive Body Repair (V001)

Official Program Description registered with the N.C. Department of Community Colleges:

The Automotive Body Repair curriculum provides training in the use of the equipment and materials of the auto body mechanic trade. The student studies the construction of the automobile body and techniques of auto body repairing, rebuilding and refinishing.

Repairing, straightening, aligning, metal finishing and painting of automobile bodies and frames are typical jobs performed. Job titles include automobile body repairperson, automotive painter and frame and chassis repairperson. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Diploma Awarded

A Diploma in Automotive Body Repair is awarded by the College upon completion of this program.

Note

Students must furnish required hand tools, textbooks, respirator, and protective clothing. A list of these items can be obtained from an instructor or the Program Director.

For More Information

The Automotive Body Repair program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6938, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AUB 5201	Trim and Glass	1	3	2
* AUB 5401	Panel Installation and Adjustments	2	6	4
AUB 5600	Metal Finishing with Plasticand Fiberglass Fillers	3	9	6
AUT 5403	Basic Calculations for Auto, Diesel and Power Mechanics	4	0	4
WLD5250	Basic Gas Metal Arc Welding	1	3	2
				18
SECOND QUARTER				
* AUB 5402	Enamel Painting	2	6	4
* AUB 5235	Special Finishes	1	3	2
AUB 5431	Paint Equipment and Preparation	2	6	4
AUT 5404	Auto Chassis and Suspension Systems	2	6	4
MGT3303	Small Business Management	3	0	3
HSA 5200	Human Relations	2	0	2
				19
THIRD QUARTER				
AUB 5202	Auto Renewal	1	3	2
AUT 5454	Auto Heating and Air Conditioning	2	6	4
AUB 5412	Frame and Unitized Body Alignment	2	6	4
WLD5210	Basic Oxyacetylene Welding	1	3	2
AUT 5212	Electrical Testing	1	3	2
Elective				2
				18
FOURTH QUARTER				
AUB 5203	Estimating Auto Body Damage	2	0	2
* AUB 5344	Body Shop Applications I	0	9	3
* AUB 5345	Body Shop Applications II	0	9	3
* AUB 5346	Body Shop Applications III	0	9	3
COM5500	Communications Skills	5	0	5
' Technical Elective				3
				19

Total Credit Hours.....72

*Prerequisite or corequisite required; check course description.

' TECHNICAL ELECTIVES				
AUB 5347	Body Shop Applications IV	0	9	3
AUT 5415	Electrical Systems I	2	6	4
* AUB 5215	Auto Body Co-Op	0	20	2

Automotive Body Repair Certificates (V001-A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Automotive Body Repair (V001) program.

For More Information

For more information, call the Program Director – 704/342-6938, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

Automotive Body Repair Certificate With a Specialization in Automotive Metal Finishing (V001-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
WLD5250	Basic Gas Metal Arc Welding	1	3	2
WLD5210	Basic Oxyacetylene Welding	1	3	2
AUB 5344	Body Shop Applications I	0	9	3
AUB 5345	Body Shop Applications II	0	9	3
AUB 5203	Estimating Auto Body Damage	2	0	2
AUB 5600	Metal Finishing with Plastic and Fiberglass Fillers	3	9	6
AUB 540	Panel Installation and Adjustments	2	6	9
AUB 5201	Trim and Glass	1	3	2

Total Credit Hours.....24

Auto Body Repair Certificate With a Specialization in Automotive Painting (V001-B)

AUB 5344	Body Shop Applications I	0	9	3
AUB 5345	Body Shop Applications II	0	9	3
AUB 5402	Enamel Painting	2	6	4
AUB 5203	Estimating Auto Body Damage	2	0	2
AUB 5431	Paint Equipment and Preparation	2	6	4
AUB 5235	Special Finishes	1	3	2

Total Credit Hours.....18

Auto Body Repair Certificate With a Specialization in Automotive Body and Frame Alignment (V001-C)

AUT 5454	Auto Heating and Air Conditioning	2	6	4
WLD5250	Basic Gas Metal Arc Welding	1	3	2
WLD5210	Basic Oxyacetylene Welding	1	3	2
AUB 5346	Body Shop Applications III	0	9	3
AUB 5203	Estimating Auto Body Damage	2	0	2
AUB 5412	Frame and Unitized Body Alignment	2	6	4
AUB 5401	Panel Installation and Adjustments	2	6	4
AUT 5404	Steering and Suspension Systems	2	6	4

Total Credit Hours.....25

Automotive Mechanics (V003)

Official Program Description registered with the N.C. Department of Community Colleges:

The Automotive Mechanics curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work and the technical understanding of the operating principles involved in the modern automobile are taught through class assignments, discussion and shop practices.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In

some communities and rural areas, they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Diploma Awarded

A Diploma in Automotive Mechanics is awarded by the College upon completion of this program.

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

For More Information

The Automotive Mechanics program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6858, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Counselors for this program can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AUT 5401	Internal Combustion Engines I	2	6	4
AUT 5405	Basic Automotive Fuel Systems	2	6	4
AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
PHY 5304	Shop Science I	2	2	3
				19
SECOND QUARTER				
* AUT 5402	Internal Combustion Engines II	2	6	4
* AUT 5416	Electrical Systems II	2	6	4
AUT 5425	Power Train Systems I	2	6	4
AUT 5311	Brake Systems	2	3	3
* PHY 5305	Shop Science II	2	2	3
				18
THIRD QUARTER				
AUT 5404	Steering and Suspension Systems	2	6	4
AUT 5454	Automotive Heating and Air Conditioning	2	6	4
AUT 5426	Power Train Systems II	2	6	4
* AUT 5307	Electrical, Fuel and A/C Systems Applications	1	6	3
! Technical Elective				2
				17
FOURTH QUARTER				
* AUT 5308	Brakes, Steering and Suspension Systems Applications	1	6	3
* AUT 5427	Power Train Systems III	2	6	4
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
WLD5210	Basic Oxyacetylene Welding	1	3	2
				16

Total Credit Hours.....70

* Prerequisite or corequisite required; check course description. Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

! TECHNICAL ELECTIVES:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUB 5201	Trim and Glass	1	3	2
* AUT 5205	Fundamentals of Computer Controlled Fuel Systems	2	0	2
* AUT 5295	Auto Mechanics Co-Op	0	20	2
DSL 5300	Diesel Fundamentals	2	3	3
DSL 5304	Hydraulics and Pneumatics	2	2	3

Automotive Mechanics Certificate (V003–A)

Specialization Certificate

The certificate listed below can be earned in the Automotive Mechanics (V003) program.

For More Information

For more information, call the Program Director – 704/342-6858, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

Automotive Mechanics Certificate With a Specialization in Automotive Suspension and Brakes (V003-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
PHY 5304	Applied Physics	2	2	3
AUT 5311	Brake Systems	2	3	3
AUT 5404	Steering and Suspension Systems	2	6	4
AUT 5308	Brakes, Steering and Suspension Systems Applications	1	6	3

Total Credit Hours.....17

Automotive Service Technician (T156)

Official Program Description registered with the N.C. Department of Community Colleges:

The Automotive Service Technician curriculum is comprised of cooperative education training and related instruction in the classroom. The related instruction is an organized and systematic form of instruction designed to provide the student with knowledge of theoretical, technical, and general academic subjects related to the trade of the automotive technician. The cooperative work phase of the program requires students to be employed full-time in supervised automotive mechanic positions to receive on-the-job experience. The cooperative phase of the program will be supervised and evaluated.

This program is designed to upgrade the technical and professional level of students desiring to become dealership technicians. This program includes classroom lecture and laboratory

sessions on up-to-date specific manufacturer's vehicles, as well as paid work experience at an automotive dealership. The program requires study and work experience through nine calendar quarters. Students alternate quarters between CPCC and their assigned dealerships. Each specialized subject is covered within the classroom and laboratory at the College and is immediately followed by related work experience in the dealership.

This program is offered with three different sponsor groups. General Motors and GM dealers sponsor the Automotive Service Educational Program (ASEP). Toyota and Toyota dealers sponsor the Toyota Technical Education Network (T-TEN). Other dealers and independent repair shops sponsor the Cooperative Automotive Service Technician (CAST) program.

Degree Awarded

The Associate in Applied Science Degree – Automotive Service Technician is awarded by the College upon completion of this program.

Program Accreditation

This program is Master Certified by the National Institute for Automotive Service Excellence (A.S.E).

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

For More Information

The Automotive Service Technician program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6858, or the Department Office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Students are admitted to each program once a year.
- Satisfactory scores on placement tests are required.
- Students must have and maintain an approved dealership sponsor.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AUT 4415	Gasoline Combustion Engines I	2	4	4
AUT 4417	Automotive Fuel Delivery Systems	2	4	4
AUT 4407	Automotive Engine Electrical Systems I	2	4	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 4311	Automotive Brake Systems	2	2	3
PHY 5304	Applied Physics I	2	2	3
				22
SECOND QUARTER				
* AUT 5321	Auto Dealer Co-Op I	0	30	3
				3
THIRD QUARTER				
* AUT 4408	Gasoline Combustion Engines II	2	4	4
* AUT 4409	Automotive Engine Electrical Systems II	2	4	4
* AUT 4501	Automotive Electronics	4	2	5
AUT 4414	Automotive Climate Control Systems	2	4	4
* PHY 5305	Applied Physics II	2	2	3
EDP 3310	Microcomputer Operations	2	2	3
				23
FOURTH QUARTER				
* AUT 5322	Auto Dealer Co-Op II	0	30	3
				3
FIFTH QUARTER				
AUT 4411	Auto Manual Power Train Systems	2	4	4
AUT 4412	Automotive Suspension and Steering Systems	2	4	4
* AUT 4506	Computer Controlled Fuel Systems	4	2	5
* AUT 4300	Automotive Emission Systems	2	2	3
* ENG 1504	English Composition I	5	0	5
				21
SIXTH QUARTER				
* AUT 5323	Auto Dealer Co-Op III	0	30	3
				3
SEVENTH QUARTER				
AUT 4413	Automotive Automatic Transmissions	2	4	4
* AUT 4402	Auto Instrumentation and Chassis Electrical Systems	2	4	4
WLD 5250	Basic Gas-Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2
* ENG 3405	Technical English II	4	0	4
General Education Electives:				
	Humanities or Fine Arts	3	0	3
	Social or Behavioral Science	3	0	3
				22
EIGHTH QUARTER				
* AUT 5324	Auto Dealer Co-Op IV	0	30	3
				3
NINTH QUARTER				
* AUT 4416	Automotive Automatic Transaxles	2	4	4
DSL 5300	Diesel Fundamentals	2	3	3
FIN 3314	Business Mathematics I	3	0	3
General Education Elective:				
	Natural Science or Math	3	0	3
SPH 1300	Oral Communications	3	0	3
				16

Total Credit Hours 116

* Prerequisite or corequisite required; check course description.

Automotive Technology (T176)

Official Program Description registered with the N.C. Department of Community Colleges:

Automotive Technology is designed to meet the needs for preparing highly trained technicians to service and repair automobiles and light trucks equipped with highly technical electrical, electronics, and emission control systems. Emphasis is placed on the operation and servicing of the power train components, electrical systems, fuel systems, chassis and suspension and emission controls of gasoline and diesel engine vehicles. Upon completion of this curriculum, the person should have the theoretical knowledge and background to understand the systems of the newer model automobiles and should be prepared to work as a technician servicing automobiles and light duty trucks.

Degree Awarded

The Associate in Applied Science Degree – Automotive

Technology is awarded by the College upon completion of this program.

Program Accreditation

This program is Master Certified by the National Institute for Automotive Service Excellence (A.S.E.).

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

More Information

The Automotive Technology program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6858, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
AUT 5401	Internal Combustion Engines I	2	6	4
AUT 5405	Basic Automotive Fuel Systems	2	6	4
AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
PHY 5304	Applied Physics I	2	2	3
				19
SECOND QUARTER				
* AUT 5402	Internal Combustion Engines II	2	6	4
* AUT 5416	Electrical Systems II	2	6	4
AUT 5425	Power Train Systems I	2	6	4
AUT 5311	Brakes Systems	2	3	3
PHY 5305	Applied Physics II	2	2	3
				18
THIRD QUARTER				
AUT 5404	Steering and Suspension Systems	2	6	4
AUT 5426	Power Train Systems II	2	6	4
* AUT 5307	Electrical, Fuel, and A/C Systems Applications	1	6	3
AUT 5454	Automotive Heating and Air Conditioning	2	6	4
DSL 5300	Diesel Fundamentals	2	3	3
				18
FOURTH QUARTER				
* AUT 5308	Brakes, Steering, and Suspension Systems Applications	1	6	3
* AUT 5427	Power Train Systems III	2	6	4
ENG 1504	English Composition I	5	0	5
* AUT 5205	Fundamentals of Computer Controlled Fuel Systems	2	0	2
WLD5210	Basic Oxyacetylene Welding	1	3	2
! Technical Elective				2
				18
FIFTH QUARTER (Fall Quarter Only)				
* AUT 4300	Automotive Emission Systems	2	2	3
* AUT 4501	Automotive Electronics	4	2	5
ENG 3405	Technical English II	4	0	4
DSL 5304	Hydraulic and Pneumatics	2	2	3
SPH 1300	Oral Communications	3	0	3
				18
SIXTH QUARTER (Winter Quarter Only)				
* AUT 4402	Auto Instrumentation and Chassis Electrical Systems	3	2	4
* AUT 4506	Computer Controlled Fuel Systems	4	2	5
EDP 3310	Microcomputer Operations	2	2	3
FIN 3314	Business Mathematics I	3	0	3
				15
SEVENTH QUARTER (Spring Quarter Only)				
* AUT 4308	Manual and Automatic Power Trains Applications	1	6	3
General Education Elective:	Social or Behavioral Science	3	0	3
General Education Elective:	Humanities or Fine Arts	3	0	3
General Education Elective:	Natural Science or Math	3	0	3
				12

Total Credit Hours 118

* Prerequisite or corequisite required; check course description. Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

! TECHNICAL ELECTIVES				
AUB 5201	Trim and Glass	1	3	2
* AUT 5295	Auto Mechanics Co-Op	0	20	2

Automotive Technology Certificates (T176–A. B. C)

Specialization Certificates

The certificates listed below can be earned in the Automotive Technology (T176) program.

For More Information

For more information, call the Program Director – 704-342-6858, or the Technical Careers Department office – 704-342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or G.E.D. Certificate is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

Automotive Technology Certificate With a Specialization in Automotive Driveability/Tune-up (T176-A)

AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Tech.	4	0	4
AUT 5416	Electrical Systems II	2	6	4
AUT 5405	Basic Automotive Fuel Systems	2	6	4
AUT 5205	Fundamentals of Computer Controlled Fuel Systems.	2	0	2
AUT 4501	Automotive Electronics	4	2	5
AUT 4300	Automotive Emission Systems	2	2	3

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT 4506	Computer Controlled Fuel Systems	4	2	5
AUT 5307	Electrical, Fuel and A/C Systems Applications	1	6	3

Total Credit Hours.....34

Automotive Technology Certificate With a Specialization on Automotive Electrical Systems (T176-B)

AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto Mechanics	4	0	4
AUT 5416	Electrical Systems II	2	6	4
AUT 4501	Automotive Electronics	4	2	5
AUT 4402	Auto Instrumentation and Chassis Electrical. Systems.	1	6	3
AUT 5307	Electrical, Fuel, and A/C Systems Applications	1	6	3

Total Credit Hours.....23

Automotive Technology Certificate With a Specialization on Automotive Transmissions (T176-C)

DSL 5304	Hydraulics and Pneumatics	2	3	3
AUT 5425	Power Train Systems I	2	6	4
AUT 5426	Power Train Systems II	2	6	4
AUT 5427	Power Train Systems III	2	6	4
AUT 4308	Manual and Automatic Powertrains Applications	1	6	3

Total Credit Hours.....18

Banking and Finance (T112)

Official Program Description registered with the N.C. Department of Community Colleges:

The purposes of the Banking and Finance curriculum are to prepare the individual to enter the banking and finance industries, to provide an educational program for the banking employees wanting to receive the American Institute of Banking certificate, and to provide an educational program to upgrade or retrain individuals presently employed in the banking or finance industry.

These purposes will be fulfilled through study in areas such as banking and finance principles, theories and practices; teller operations; lending and collections procedures; financial analysis; marketing and public relations.

This curriculum will provide the opportunity for an individual to enter a variety of banking or finance jobs in retail banks, commercial banks, government lending agencies, mortgage banks, and credit companies.

Degree, and Certificate Awarded

An Associate in Applied Science Degree – Banking and Finance is awarded by the College upon completion of this program.

A Certificate in Banking and Finance may also be earned.

For More Information

The Banking and Finance program is in the Business Administration Department. For more information, call the Program Director – 704/342-6980, weekdays, 8 a.m.-4 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine placement in English (ENG) and Math (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
BAF 3301	Principles of Banking	3	0	3
BUS 1500	Introduction to Business	5	0	5
MAT1504	College Algebra I OR			
FIN 3314	Business Mathematics	5	0	5
SEC 3104	Electronic Calculator	0	2	1
				14
SECOND QUARTER				
ACC 1604	Principles of Accounting I	5	2	6
EDP 2525	Introduction to Business Computing OR			
EDP 3310	Microcomputer Operations	4	2	5
ENG 1504	English Composition I	5	0	5
SEC 5200	Computer Keyboarding	1	2	2
				18
THIRD QUARTER				
BAF 3304	Fundamentals of Teller Operations	3	0	3
ECO 2304	Economics I	3	0	3
SPH 1300	Oral Communications	3	0	3
[1]	Technical Electives	6	0	6
				15
FOURTH QUARTER				
BAF 3303	Money and Banking	3	0	3
BUS 2304	Business Law I	3	0	3
ENG 1505	English Composition II OR			
ENG 3405	Technical English	5	0	5
MAT1505	College Algebra II OR			
FIN 3315	Business Math II	5	0	5
[1]	Technical Elective	3	0	3
				19
FIFTH QUARTER				
*ACC 1605	Principles of Accounting II	5	2	6
*BUS 2305	Business Law II	3	0	3
BUS 3300	Human Relations	3	0	3
ECO 2305	Economics II	3	0	3
MGT4330	Supervision	3	0	3
				18
SIXTH QUARTER				
BAF 3300	Commercial Lending	3	0	3
BAF 4313	Law and Banking: Application	3	0	3
MGT2314	Principles of Management	3	0	3
[1]	Technical and/or Free Elective	3	0	3
[2]	Math or Science Elective Students may choose any course from the Laboratory Sciences or Mathematics course listings under degree requirements in this catalog.	5	0	5
				17
SEVENTH QUARTER				
BAF 4309	Consumer Lending	3	0	3
BAF 4312	Marketing for Bankers	3	0	3
FIN 4350	Personal Money and Financial Management I	3	0	3
[1]	Technical Elective	3	0	3
	Students may choose any course from Behavioral and Social Science	3	0	3
	Humanities/Fine Arts (Art, Music, Dance)	3	0	3
				18

Total Credit Hours 119

*Prerequisite or corequisite required; check course description.

Note: Courses with a "BAF" prefix are offered primarily in the evenings and during Fall and Spring Quarters.

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
!	TECHNICAL ELECTIVES - After consultation with the Program Counselor or the Program Director, students choose 15 hours from the technical and/or free electives below:			
	BAF 3302 Law and Banking: Principles	3	0	3
	BAF 4200 Banking and Finance Cooperative Experience	2	0	2
	BAF 4303 International Banking	3	0	3
	BAF 4308 The New World of Commercial Banking	3	0	3
	BAF 4310 Investment and Funds Management	3	0	3
	BAF 4314 Real Estate Finance	3	0	3
	BAF 4316 Trust Business	3	0	3
	BAF 4320 Deposit Operations	3	0	3
	BAF 4322 Trust Operations	3	0	3
	BAF 4324 Securities Processing	3	0	3
*	BUS 2306 Business Law III	3	0	3
	BUS 4340 Consumer Credit	3	0	3
	BUS 4341 Commercial Credit	3	0	3
*	ECO 2306 Economics III	3	0	3
*	EDP 3324 Advanced Microcomputer Operations	1	4	3
*	EDP 4314 Systems and Procedures	3	0	3
	FIN 4300 Analyzing Financial Statements	3	0	3
*	FIN 4334 Business Finance I	3	0	3
*	FIN 4335 Business Finance II	3	0	3
	INT 3300 Introduction to International Business	3	0	3
	INT 3307 Economics of International Trade	3	0	3
	INT 4308 International Accounting and Taxation	3	0	3
	LEX 4313 Collections and Bankruptcy	3	0	3
	RES 3601 Fundamentals of Real Estate	6	0	6
*	RES 4393 Real Estate Investment Analysis	3	0	3
	SEC 3320 Personal Projection	3	0	3
	SSH 4504 Security Problems and Practices I	4	2	5

Banking and Finance Certificate (T112-A)

The certificate listed below can be earned in the Business and Finance program (T112).

For More Information

The Banking and Finance program is in the Business Administration Department. For more information, call the Program Director – 704/342-6980, weekdays, 8 a.m.-4 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Banking and Finance Certificate with a Specialization in Banking Operations (T112-A)

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
	FIRST QUARTER			
	BAF 3301 Principles of Banking	3	0	3
	BUS 1500 Introduction to Business	5	0	5
	MAT 1504 College Algebra OR			
	FIN 3314 Business Mathematics I	5	0	5
	SEC 3104 Electronic Calculator	1	0	1
				19
	SECOND QUARTER			
	ACC 1604 Principles of Accounting I	1	2	6
	EDP 2525 Computing OR Introduction to Business			
	EDP 3310 Microcomputer Operations	5	0	5
	ENG 1504 English Composition I	5	0	5
	SEC 5200 Computer Keyboarding	1	2	2
				18
	THIRD QUARTER			
	BAF 3304 Fundamentals of Teller Operations	3	0	3
	ECO 2304 Economics I	3	0	3
	SPH 1300 Oral Communications	3	0	3
!	Technical Electives	6	0	6
				15
	Total Credit Hours			47

*Prerequisite or corequisite required; check course description.

! Technical Electives are to be BAF-prefix courses.

Basic Law Enforcement Training (T189)

Official Program Description registered with the N.C. Department of Community Colleges:

The Basic Law Enforcement Training curriculum certificate program prepares individuals to take the Basic Training Law Enforcement Officers certification examination mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or it prepares individuals to take the Justice Officers Basic Training certification examinations mandated by the North Carolina Sheriff's Education and Training Standards Commission. Successful completion of this curriculum certificate program requires that the student satisfy the minimum requirements for certification by the Criminal Justice Commission and/or the Sheriff's Commission. The student satisfactorily completing this program should possess at least the minimum degree of general attributes, knowledge and skills to function as an inexperienced law enforcement officer. Job opportunities are available with state, county, and municipal governments in North Carolinas. In addition, knowledge, skills, and abilities acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

Note

Effective Fall Quarter 1992, a $250 supplies fee will be charged for PSC 5501 - Basic Law Enforcement Training (BLET).

For More Information

This program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-6032, weekdays, 8 a.m.-4:30 p.m.

Admission

- Admission to this program requires sponsorship of a law enforcement agency.

First step to enroll:

Call the Welcome Center – 704/342-6719.

Bookkeeping/Clerical (T150)

Official Program Description registered with the N.C. Department of Community Colleges:

The purposes of the Bookkeeping/Clerical curriculum are to prepare the individual to enter occupations which require training in both bookkeeping and clerical skills, to provide an educational program for individuals wanting training to work in small businesses and other areas where a diversification of skills is needed; and to provide opportunities for individuals wanting to fulfill professional or general interests and for those individuals interested in upgrading or retraining.

These purposes will be fulfilled through study in areas such as maintaining journals and ledgers, preparing financial statements, submitting tax forms, preparing cost data, typing, managing records, operating business machines and other basic office skills.

Through knowledge and skills, the individual will be able to perform bookkeeping and clerical activities, and through the development of personal competencies and qualities will be able to enter business and industry as a bookkeeper or clerk in a variety of areas.

Degree Awarded

The Associate in Applied Science Degree – Bookkeeping/Clerical is awarded by the College upon completion of this program.

For More Information

The Bookkeeping/Clerical program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-6545, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests will determine admission to certain courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
	ACC 3500 Small Business Accounting	5	0	5
*	ENG 1504 English Composition I	5	0	5
[1]	FIN 3314 Business Mathematics I	3	0	3
	SEC 3303 Keyboarding	1	4	3
				16
SECOND QUARTER				
*	ACC 1604 Principles of Accounting I	5	2	6
[2] *	ENG 3405 Technical English II	4	0	4
[1] *	FIN 3315 Business Mathematics II	3	0	3
	EDP 3310 Microcomputer Operations	2	2	3
				16
THIRD QUARTER				
*	ACC 1605 Principles of Accounting II	5	2	6
*	SEC 3405 Document Formatting I	3	2	4
*	EDP 3324 Advanced Microcomputer Operations	2	2	3
*	EDP 3215 Microcomputer Software – LOTUS 1-2-3	1	2	2
				15
FOURTH QUARTER				
*	ACC 2626 Intermediate Accounting I	5	2	6
*	ACC 4425 Taxes – Business and Fiduciary	3	2	4
*	SEC 3406 Document Formatting II	3	2	4
	SEC 3104 Electronic Calculators	0	2	1
				15
FIFTH QUARTER				
*	ACC 2627 Intermediate Accounting II	5	2	6
	SEC 4370 Records Management	3	0	3
*	SEC 4407 Document Production	3	2	4
[3]	Math or Laboratory Science Elective	3	0	3
				16
SIXTH QUARTER				
*	ACC 4414 Microcomputer Accounting – General Ledger	2	4	4
	ECO 2304 Economics I	3	0	3
*	FIN 4334 Business Finance I	3	0	3
[4]	Humanities Elective	3	0	3
[5]	Technical Elective	3	0	3
				16
SEVENTH QUARTER				
*	ACC 4415 Microcomputer Accounting Spreadsheets	2	4	4
	ECO 2305 Economics II	3	0	3
	SPH 1300 Oral Communications	3	0	3
	Free Elective	3	0	3
[5]	Technical Elective	3	0	3
				16

Total Credit Hours 110

*Prerequisite or corequisite required; check course description.

[1] MAT 1504, MAT 1505, or MAT 1514 may be taken if student has met placement test requirements.

[2] ENG 1505 is recommended for students who may later decide to transfer to a senior institution.

[3] MATH OR LABORATORY SCIENCE ELECTIVES – MAT, BIO, CHM, GEL,GEO, or PHY prefixes.

[4] HUMANITIES ELECTIVES – ART, DRA, ENG, FRE, GER, HUM, MUS, PHI, SPA, or SPH prefixes.

[5] TECHNICAL ELECTIVES With the approval of an advisor, students may select six hours from the following courses.

* ACC 4284 Cooperative Work Experience I
* ACC 4285 Cooperative Work Experience II
ACC 4308 International Accounting
ACC 4434 Taxes-Individual
BUS 1500 Introduction to Business
BUS 2304 Business Law I
BUS 3304 Business Statistics
* COE 3100 Introduction to Cooperative Education
* EDP 2525 Introduction to Business Computing
* EDP 3217 Microcomputer Software – Data Base
* EDP 3335 Microcomputer Programming – MS/DOS
FIN 3303 Personal Investing
* FIN 4317 Financial Statement Analysis
* FIN 4335 Business Finance II
FIN 4350 Personal Financial Management

Business Administration (T018)

Official Program Description registered with the N.C. Department of Community Colleges:
The Business Administration curriculum is designed to prepare individuals for entry into middle-management positions. The curriculum develops competencies in the application of management principles. Emphasis is placed on skill development in the areas of management functions, computer applications and analysis, critical thinking and decision-making techniques, marketing, finance, legal aspects of business, oral and written communications, and the utilization of human resources. Through the development of management competencies, the graduate will be able to function as a contributing member of a management team.

Degree Awarded
The Associate in Applied Science – Business Administration is awarded by the College upon completion of this program.

For More Information
The Business Administration program is in the Business Administration Department. For more information, call the Program Director – 704/342-6238, weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions
- A High School Diploma or equivalent is required.
- Placement testing in English, mathematics, and reading is required for English (ENG) and (MAT) classes.

First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BUS 1500	Introduction to Business	5	0	0	5
BUS 3300	Human Relations	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
* ENG 1504	English Composition I	5	0	0	5
					16
SECOND QUARTER					
BUS 2304	Business Law I	3	0	0	3
* EDP 3324	Advanced Microcomputer Operations	2	2	0	3
[1] * ENG 3405	Technical English II OR				
ENG 1505	English Composition II	4	0	0	4
[1] FIN 3314	Business Mathematics I	3	0	0	3
MGT 2314	Principles of Management	3	0	0	3
					16
THIRD QUARTER					
* BUS 2305	Business Law II	3	0	0	3
ACC 1604	Principles of Accounting I	5	2	0	6
[1] FIN 3315	Business Mathematics II	3	0	0	3
MGT 4330	Supervision OR				
MGT 3331	Preparing Women as Managers	3	0	0	3
[2] Humanities Elective		3	0	0	3
					18
FOURTH QUARTER					
* BUS 3304	Business Statistics	3	0	0	3
ECO 2304	Economics I	3	0	0	3
MGT 3303	Small Business Management	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
* ACC 1605	Principles of Accounting II	5	2	0	6
					18
FIFTH QUARTER					
ECO 2305	Economics II	3	0	0	3
MGT 4331	Administrative Office Management	3	0	0	3
MGT 4332	Human Resources Management I	3	0	0	3
MKT 1304	Marketing I	3	0	0	3
[3] Technical Electives		6	0	0	6
					18
SIXTH QUARTER					
* BUS 4201	Business Administrative Cooperative Education I	0	0	20	2
* ECO 2306	Economics III	3	0	0	3
* MGT 4337	Human Resources Management II	3	0	0	3
* MGT 4338	Labor Management Relations	3	0	0	3
* MGT 4333	Introduction to Industrial Management	3	0	0	3
[3] Technical Elective		3	0	0	3
					17
SEVENTH QUARTER					
* BUS 4202	Business Administrative Cooperative Education II	0	0	20	2
GEO 1614	Introduction to Physical Geography OR				
* MAT 1504	College Algebra OR				
MAT 3504	Technical Mathematics	5	0	0	5
Elective		3	0	0	3
[3] Technical Elective		3	0	0	3
					13

Total Credit Hours 116

It is recommended that students planning to concentrate in **Administrative Office Management** select courses from the following:

* BUS 2306	Business Law III	3	0	0	3
* FIN 4334	Business Finance I	3	0	0	0
* FIN 4335	Business Finance II	3	0	0	3
* MGT 4362	Advanced Administrative Office	3	0	0	3
SEC 3312	Word Processing	2	2	0	3
SEC 4370	Records Management	2	2	0	3
SEC 5200	Computer Keyboarding	1	2	0	2

It is recommended that students planning to concentrate in **Human Resources Management** select courses from the following:

* BUS 2306	Business Law III	3	0	0	3
* BUS 3305	Human Relations II	3	0	0	3
INS 3340	Principles of Risk/Insurance	3	0	0	3
* MGT 4339	Training and Development	3	0	0	3
* MGT 4357	Compensation Management	3	0	0	3
SSH 3504	Occupational Safety/Health	4	2	0	5

* Prerequisite or corequisite required; check course description.

[1] MAT 1504, MAT 1505, ENG 1505 are recommended for students planning to transfer to senior institutions

[2] Students may select any humanities course from the Humanities courses section.

[3]TECHNICAL ELECTIVES. It is recommended that students planning to concentrate in **General Management** select courses from the following:

				HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*	BUS	3305	Human Relations II	3	0	0	3
*	BUS	3308	Business Statistics II	3	0	0	3
	BUS	4340	Consumer Credit OR				
	BUS	4341	Commercial Credit	3	0	0	3
	INT	3300	Introduction to International Business	3	0	0	3
*	FIN	4334	Business Finance I	3	0	0	3
*	MKT	4325	Sales Management	3	0	0	3
	MGT	4334	Management Seminar	3	0	0	3

Civil Engineering Technology (T038)

Official Program Description registered with the N.C. Department of Community Colleges:

The Civil Engineering Technology curriculum provides the specialized background and related theory for technicians who work primarily with architects and engineers in the field of construction. The Civil Engineering Technician carries out many of the planning and supervising tasks necessary in the construction of transportation systems such as highways, pipelines, railroads, airfields, and transmission lines; structures for residential and commercial buildings, bridges, dams, and power plants; and water and waste treatment systems. The graduate may perform job tasks in planning, drafting, estimating, supervising, inspecting, or managing construction projects. Other duties might include ordering materials, interpreting plans and specifications, structural detailing and drafting work, making engineering computation of earthwork, and storm drainage and property surveys.

Upon graduation from this program, the Civil Engineering Technician may quality for various jobs such as surveying instrumentation and/or party chief, field or laboratory materials tester, construction foreman, field engineering technician or superintendent, expeditor, manager, estimator, construction materials or equipment salesperson, inspector, drafter, or structural detailer. Graduates of this program may receive credit toward qualifying to be a land surveyor. They may also continue their education toward a bachelor's degree in engineering technology.

Degree Awarded

The Associate in Applied Science Degree – Civil Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Civil Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Civil Engineering Technology curriculum is a comprehensive program providing classroom and laboratory experiences in the practical application of both fundamental and specialized civil engineering technology principles. Courses in drafting, civil engineering technology, and architectural technology, complemented by courses in mathematics, physics, computer programming, and communications give students progressive levels of job-related knowledge and skills needed in today's construction industry. This program is designed to produce civil engineering technicians with sound knowledge and skills in building technology, construction practices and surveying fundamentals. A balance between classroom, laboratory, field, and computer activities provides the experience for a successful career in Civil Engineering Technology.

Completion of this program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

Civil Engineering Technology is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Program Director – 704/342-6578, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy and science.
- Placement tests in English and mathematics determine entry-level courses that match individual needs. Advancement studies (9000-series) math and English courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER					
	CIV	3101 Intro to Civil Engineering/ Surveying Technology	1	0	1
	CIV	3306 Construction. Materials and Methods	2	3	3
	ARC	3334 Architectural Drafting I – Basic	1	6	3
	ARC	4200 Architectural Blueprint Reading and Specifications	1	3	2
*	ENG	1504 English Composition I	5	0	5
*	MAT	3507 Engineering Technology Math I	5	0	5
					19
SECOND QUARTER					
*	ENG	3405 Technical English II	4	0	4
*	MAT	3508 Engineering Technology Math II	5	0	5
*	PHY	1404 Physics I – Basic Mechanics	3	2	4
*	CIV	3407 Surveying I	2	6	4
					17
THIRD QUARTER					
*	MAT	3509 Engineering Technology Math III	5	0	5
*	CIV	4407 Surveying II – Route Surveying	2	6	4
*	PHY	1405 Physics II – Elastic and Thermal Properties of Matter	3	2	4
*	CIV	4300 Codes and Contracts	2	3	3
	EDP	3310 Microcomputer Operations	2	2	3
					19
FOURTH QUARTER					
*	CIV	3414 Statics and Strength of Materials–Basic	3	3	4
*	CIV	4408 Surveying III – Boundary Surveying	2	6	4
*	ARC	3314 Architectural Computer Drafting I	1	6	3
	Free Elective				2
	Art/Humanities Elective		3	0	3
					16

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
FIFTH QUARTER				
* CIV 3415	Statics and Strength of Materials – Advanced	3	3	4
* CIV 4302	Plain Concrete and Asphalt	1	6	3
* CIV 4320	Principles of Hydraulics	2	3	3
* CIV 3317	Civil CAD – Site Planning	1	6	3
[1]	Technical Elective			3
				16
SIXTH QUARTER				
* CIV 4319	Soils Technology	2	3	3
* CIV 4305	Construction Estimates	2	3	3
* ARC4339	Architectural Drafting VI – Structural	1	6	3
* CIV 4425	Structures I	3	3	4
* PHY 1406	Physics III – Electricity and Magnetism	3	2	4
				17
SEVENTH QUARTER				
* CIV 4426	Structures II	3	3	4
* CIV 4307	Construction Project Management	2	3	3
SPH 1300	Oral Communications	3	0	3
[1]	Technical Elective			3
	Behavioral/Social Science Elective	3	0	3
				16

Total Credit Hours 120

* Prerequisite or corequisite required; check course description.

[1] TECHNICAL ELECTIVES

*	CIV 3314	Structural Drafting I (CAD)
*	CIV 3315	Structural Detailing (CAD)
*	CIV 4227	Microcomputer Applications
*	CIV 4284	Cooperative Work Experience I
*	CIV 4285	Cooperative Work Experience II
*	CIV 4314	Surveying VI – Construction Site Planning
*	CIV 4315	Subdivision Planning and Design
*	CIV 4414	Surveying IV – Advanced Surveying
*	CIV 4415	Surveying V – Topographic Mapping
	EDP 3405	Microcomputer Programming – Basic

Commercial Art and Advertising Design (T070)

Official Program Description registered with the N.C. Department of Community Colleges:

Students in the Commercial Art and Advertising Design curriculum study advertising, illustration, layout, typography, design, photography, graphic communications and production.

Commercial artists and advertising designers create and design layouts and art work for print and audiovisual media. They may design and prepare letterheads, brochures, illustrations and art for publication; produce package design; and prepare lettering, type and art for print and audiovisual media.

Job opportunities for graduates of this program may be in art and design studios, advertising agencies, department stores, industrial advertising departments, government agencies, television and film studios, and the printing and publishing industry.

Degree Awarded

The Associate in Applied Science Degree – Commercial Art and Advertising Design is awarded by the College upon completion of this program.

For More Information

The Commercial Art and Advertising Design program is in the Commercial Art/Advertising Design Department. For more information, call a Program Counselor – 704/342-6862, 6443, or 5922, weekdays, 8 a.m.-5 p.m.

Admissions

- High School Diploma or equivalent is required.
- Placement tests determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ART 1300	Introduction to Art I	3	0	3
ART 1404	General Drawing I	2	4	4
ART 1424	Design I	2	4	4
ENG 1504	English Composition I	5	0	5
				16
SECOND QUARTER				
ART 1301	Introduction to Art II	3	0	3
* ART 1405	General Drawing II	2	4	4
* ART 1425	Design II	2	4	4
DFT 3300	Advertising Drafting	2	3	3
PSY 2504	General Psychology	5	0	5
				19
THIRD QUARTER				
* ADV 4454	Typography and Lettering I	2	4	4
ART 1384	Basic Camera Techniques	3	0	3
* ART 1406	General Drawing III	2	4	4
* ART 1426	Design III	2	4	4
FIN 3314	Business Mathematics I	3	0	3
				18
FOURTH QUARTER				
* ADV 4414	Advertising Production I	2	4	4
* ADV 4424	Advertising Studio I	2	4	4
* ADV 4455	Typography and Lettering II	2	4	4
* ART 1385	Photo Lab Processes I	1	4	3
SOC 1301	Group Interaction	3	0	3
				18
FIFTH QUARTER				
* ADV 1300	Photography for Advertising	1	4	3
* ADV 3401	Illustration I	2	4	4
* ADV 4415	Advertising Production II	2	4	4
* ADV 4425	Advertising Studio II	2	4	4
* ENG 4324	Copywriting I	3	0	3
				18
SIXTH QUARTER				
* ADV 3402	Illustration II	2	4	4
* ADV 4416	Advertising Production III	2	4	4
* ADV 4426	Advertising Studio III	2	4	4
* ENG 4325	Copywriting II	3	0	3
* ADV 4284	Cooperative Work Experience	0	20	2
				17
SEVENTH QUARTER				
* ADV 3414	Computer Assisted Design	2	4	4
* ADV 4427	Advertising Studio IV	2	4	4
* ADV 4436	Advertising Thesis	2	4	4
* PRN 5364	Fundamentals of Offset Printing	2	2	3
* ADV 4417	Advertising Production IV	2	4	4
				19

Total Credit Hours 125

* Prerequisite or corequisite required; check course description.

Computer Engineering Technology (T040)

Official Program Description registered with the N.C. Department of Community Colleges:

This program is intended to provide the skills required to install, service and maintain computers, microprocessor- and computer-controlled equipment, and computer peripheral devices. The curriculum provides training in both the hardware and software areas of the computer field.

A sequence of introductory hardware courses provides the student with a strong background in physics, technical mathematics, electricity, electronics, and digital logic circuits and concepts. Advanced course work provides a detailed study of the logic of the central processing unit, the operation of integrated circuits in the central processing unit, the operation and use of integrated circuit memory devices and the interfacing of the central processing unit to memory devices. Additional studies cover interfacing the central processing unit to external devices using both serial and parallel data transfer, the operation of large scale integration programmable interface units and their interfacing with the central processing unit, and the operation of computer peripheral devices such as video displays, printers, floppy disk storage systems, magnetic tape units, keyboards and the techniques of converting signal between the analog and digital forms.

The programming course work provides a sequence of study stressing good program design techniques, structured programming and program documentation. Rather than being familiar with a large number of programming languages, the student is expected to learn well a highly structured language, such as PASCAL, and an assembly language. The importance of assembly language to the understanding of the operation of the central processing unit and the related computer units is stressed. Computer operating system concepts are discussed to provide a unified view of the hardware and software aspects of the computer system.

Degree Awarded

The Associate in Applied Science Degree – Computer Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Computer Engineering Technology program at Central Piedmont Community College is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Computer Engineering Technology program prepares students with skills and knowledge in both hardware and software aspects of computers and related systems. It provides a comprehensive background in the practical application of both computer and electronic circuits from the component to the system level. Courses are designed to present technical content in an order that provides students with progressive levels of job-related skills and knowledge. From fundamental programming and electrical circuits, students advance to specialized courses in computer circuits, microprocessors, microcomputer system design, software development, and computer maintenance.

The Computer/Electrical/Electronics Engineering Technology laboratories are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics, programmable logic controllers, electrical machines and robotics.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the CPCC Catalog in effect at the time of re-entry.

For More Information

The Computer Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Program Director – 704/342-6479, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ELN 3100	Computer/Electrical/Electronics Orientation	1	0	1
* ELN 3514	Basic Electricity (DC)	3	6	5
EDP 3335	Microcomputer Programming – MS/DOS	2	2	3
* MAT3507	Engineering Technology Math I	5	0	5
* ENG 1504	English Composition I	5	0	5
				19
SECOND QUARTER				
* ELN 3515	Basic Electricity (AC)	3	6	5
EDP 1407	Computer Concepts and PASCAL Programming I	3	2	4
* MAT3508	Engineering Technology Math II	5	0	5
* ENG 3405	Technical English II	4	0	4
				18
THIRD QUARTER				
* ELN 3404	Electronics I	3	3	4
* ELN 4456	Local Area Networks	3	3	4
* ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
* MAT3509	Engineering Technology Math III	5	0	5
				17
FOURTH QUARTER				
* ELN 3405	Electronics II	3	3	4
* ELN 4427	Digital Circuits I	3	3	4
* ELN 4416	Computer Maintenance I	3	3	4
* PHY 1404	Physics I: Basic Mechanics	3	2	4
Humanities/Fine Arts Elective		3	0	3
				19
FIFTH QUARTER				
* ELN 3414	Industrial Instrumentation	3	3	4
* ELN 4434	Digital Circuits II	3	3	4
* ELN 4547	Microprocessors I	3	6	5
* PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
Free Elective		1	0	1
				17

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SIXTH QUARTER			
* ELN 4100 Technical Career Planning	1	0	1
* EDP 3410 C Language	3	2	4
* ELN 4557 Microprocessors II	3	6	5
[2]* Technical Elective			3
* SPH 1300 Oral Communications	3	0	3
Social/Behavioral Science Elective	3	0	3
			19
SEVENTH QUARTER			
* ELN 4424 Computer Maintenance II	3	3	4
* ELN 4567 Microcomputer System Design	3	6	5
[2]* Technical Elective			3
* PHY 1407 Physics IV: Modern Physics	3	2	4
			16

Total Credit Hours 126

* Prerequisite or corequisite required; check course description.

[1] **Note:** ENG 1505 may be substituted for ENG 3405.

[2] TECHNICAL ELECTIVES:
* ELN 4284 Cooperative Work Experience I
* ELN 4285 Cooperative Work Experience II
* ELN 4345 Advanced E/E Topics
* ELN 4355 Laser Technology
* ELN 4414 Introduction to RF Communications
* ELN 4415 Industrial Programmable Controllers
* ELN 4437 Robotics
* ELN 4444 Network Analysis
* ELN 4454 Data and Computer Communications I
* ELN 4455 Data and Computer Communications II
* ELN 4465 Electronic Circuit Design (CAD) II
* ELN 4466 Advanced Local Area Networks
* ELN 4468 Advanced Microprocessors
* ELN 4525 Electrical Machines I

Computer Operations (V012)

Official Program Description registered with the N.C. Department of Community Colleges:
The Computer Operations curriculum is designed to prepare the individual for gainful employment as a computer operator. This objective is fulfilled through study and application in areas such as data processing concepts and equipment, computer console operations and data processing applications with related study in mathematics, communications, and business-related courses.

Graduates may find employment in businesses and industries as computer and terminal operators or other related jobs in the computer/operations area.

Diploma Awarded

A Diploma in Computer Operations is awarded by the College upon completion of this program.

Note

This curriculum is being reviewed for a possible extension to a seven-quarter Associate in Applied Science Degree program. Before enrolling, be sure to contact the Department –704/342-6549 or a Program Counselor – 704/342-6426 or 6229, to determine the current course requirements for this curriculum.

For More Information

The Computer Operations program is in the Computer and Office Information Systems Department. For more information, call the Department office – 704/342-6549, or a Program Counselor at 704/342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine admission to English (ENG) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
[1] EDP 1500 Computer Literacy	5	0	5
FIN 3314 Business Mathematics I	3	0	3
* EDP 5613 Computer Operations I	5	2	6
BUS 1500 Introduction to Business	5	0	5
			19
SECOND QUARTER			
* EDP 5614 Computer Operations II	5	2	6
ACC 3600 General Accounting	5	2	6
EDP 3514 Programming Logic and Cobol I	3	2	4
			16
THIRD QUARTER			
* EDP 5524 General Data Processing Applications	3	4	5
* EDP 4314 Systems and Procedures	3	0	3
* EDP 5615 Computer Operations III	5	2	6
* ENG 1504 English Composition I	5	0	5
			19
FOURTH QUARTER			
* EDP 5616 Computer Operations IV	4	4	6
[2] EDP 5425 Programming II – Operators	3	2	4
[2] In lieu of the designated course, EDP 5425 Programming II – Operators, EDP 5284 Cooperative Work Experience I, and EDP 5285 Cooperative Work Experience II can be substituted.			
SPH 1300 Oral Communications	3	0	3
[2] General Education Elective	3	0	3
			16

Total Credit Hours..... 70

* Prerequisite or corequisite required; check course description.

[1] **Note:** SEC 5200 Computer Keyboarding is recommended for students who have not had a typing course in high school or postsecondary school.

[2] GENERAL EDUCATION ELECTIVES. Courses must come from the areas of English, applied sciences, and/or applied social studies. Suggestions are:
BUS 3300 Human Relations
ECO 3300 Introduction to Economics
ENG 3405 Technical English II

Computer Programming, Business (T022)

Official Program Description registered with the N.C. Department of Community Colleges:

The primary objective of the Business Computer Programming curriculum is to prepare individuals for gainful employment as computer programmers. The objective is fulfilled

through study and application in areas such as computer and systems theories and concepts, data processing techniques, business operations, logic, flow charting, programming procedures and languages and types, uses and operation of equipment.

Entry-level jobs as computer programmer and computer programmer trainee are available. With experience and additional education, the individual may enter jobs such as data processing manager, computer programmer manager, systems analyst and systems manager.

Degree Awarded

The Associate in Applied Science Degree – Business Computer Programming is awarded by the College upon completion of this program.

For More Information

The Business Computer Programming program is in the Computer and Office Information Systems Department. For more information, call the Department office – 704/342-6549, or a Program Counselor – 704/342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine admission to English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
EDP 1500	Computer Literacy	5	0	5
EDP 3514	Programming Logic and COBOL I	3	4	5
* ENG 1504	English Composition I	5	0	5
				15
SECOND QUARTER				
* EDP 3515	Programming Logic and COBOL II	3	4	5
* ENG 3405	Technical English II	4	0	4
MAT 3504	Technical Mathematics I	5	0	5
* EDP 4425	Computer Systems I	3	2	4
				18
THIRD QUARTER				
* EDP 4435	Computer Systems II	3	2	4
* EDP 4314	Systems and Procedures	3	0	3
* EDP 3516	Programming Logic and COBOL III	3	4	5
ACC 1604	Principles of Accounting I	5	2	6
				18
FOURTH QUARTER				
* EDP 4517	Batch Data Processing Applications	3	4	5
EDP 4444	RPG Programming OR			
EDP 3405	Microcomputer Programming-BASIC	3	2	4
* ACC 1605	Principles of Accounting II	5	2	6
				15
FIFTH QUARTER				
* EDP 4445	Advanced RPG Programming, OR			
* EDP 3406	Microcomputer Programming – Advanced BASIC	3	2	4
! Technical Elective				3
MAT 3505	Technical Mathematics II	5	0	5
ACC/BUS/MKT/FIN Electives				6
				18
SIXTH QUARTER				
* EDP 4516	CICS	3	4	5
* EDP 4315	Applied Business Systems	3	0	3
EDP 4317	Introduction to Data Bases	2	2	3
! Technical Elective				3
Elective				3
				17
SEVENTH QUARTER				
Humanities/Fine Art Elective				3
* EDP 4518	Real Time Data Processing Application	3	4	5
SPH 1300	Oral Communications	3	0	3
! Technical Elective				3
ECO 3300	Introduction to Economics	3	0	3
				17

Total Credit Hours 118

* Prerequisite or corequisite required; check course description.

! RECOMMENDED TECHNICAL ELECTIVES

- EDP 3215 Microcomputer Software – LOTUS 1-2-3
- EDP 3217 Microcomputer Software – Data Base
- EDP 3310 Microcomputer Operations
- EDP 3324 Advanced Microcomputer Operations
- EDP 3335 Microcomputer Programming – MS-DOS
- EDP 3407 Programming Business Applications for Microcomputers
- EDP 3410 C Language
- EDP 3411 Advanced C Language Programming
- EDP 3440 Assembly Language
- EDP 4284 Cooperative Work Experience I
- EDP 4285 Cooperative Work Experience II
- EDP 4546 Programming Business Applications in RPG

Correctional and Juvenile Services (T102)

Official Program Description registered with the N.C. Department of Community Colleges:

The Correctional and Juvenile Services program prepares individuals in the legal, philosophical, technical, and practical aspects of Correctional and Juvenile Law Enforcement. Specific objectives of the curriculum are to develop competency in the following areas; the principles and application of criminal law, the psychology of human behavior, the sociology of social problems, law enforcement in the community, the development of skills in oral and written communications, and an understanding of human relations as successfully employed in Correctional and Juvenile Law Enforcement.

The Correctional and Juvenile Services career offers its personnel an opportunity to contribute to the safety and welfare of society. Graduates of the Correctional and Juvenile Services curriculum have a variety of career opportunities available to them. They work in such diverse areas as juvenile training schools, courts, adult prisons, county jails, community-based alternative programs, and the probation and parole fields. Such careers require individuals with a broad perspective capable of critical and logical thinking.

Job opportunities may include such positions as Juvenile Detention Counselor, Youth Officer, Training School Counselor,

Group and Community Organizations Works, Rehabilitation Officer, Correctional Officer, or Probation and Parole Officer, Municipal and County Jailer, and Intensive Surveillance Officer.

Degree Awarded

The Associate in Applied Science – Correctional and Juvenile Services is awarded by the College upon completion of this program.

For More Information

The Correctional and Juvenile Services program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-6032, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- High School Diploma or equivalent is required.
- Placement tests determine admission to English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center -704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLS /WK	HRS CR/ QTR
MAJOR COURSES					
CSC 3300	Law and Policies in Corrections	3	0	0	3
CSC 3500	Introduction to Corrections	5	0	0	5
CSC 3501	Correctional Counseling and Treatment	5	0	0	5
CSC 3504	Juvenile Justice System	5	0	0	5
CSC 3505	Victimology	5	0	0	5
CSC 3507	Criminal Personality and Behavior	5	0	0	5
CSC 3508	Drugs, Society and Crime	5	0	0	5
CSC 3509	Court Intake Procedures	5	0	0	5
CSC 3510	Women in the Criminal Justice System	5	0	0	5
CSC 3520	Jail Operations and Management	5	0	0	5
* CSC 3524	Probation and Parole	5	0	0	5
CSC 4514	Community Based Programs	5	0	0	5
PSC 3510	Criminal Law	5	0	0	5
		63	0	0	63
RELATED COURSES					
EDP 3310	Microcomputer Operations	2	2	0	3
HED 1204	Standard First Aid	1	2	0	2
[1]	Elective – Natural Science or Mathematics	5	0	0	5
[2]	Elective – Computational	3	0	0	3
[3]	Related Electives	9	0	0	9
		20	4	0	22
GENERAL EDUCATION					
* ENG 1504	English Composition I	5	0	0	5
* ENG 1505	English Composition II	5	0	0	5
PSY 2504	General Psychology	5	0	0	5
SPH 1300	Oral Communications	3	0	0	3
[4]	Elective – Humanities/Fine Arts	3	0	0	3
		21	0	0	21
ELECTIVES:					6
Total Credit Hours					112

* Prerequisite or corequisite required; check course description.

		HRS CLS /WK	HRS LAB /WK	HRS CLS /WK	HRS CR/ QTR
[1]	NATURAL SCIENCE OR MATHEMATICS ELECTIVES: (Choose 5 hours)				
BIO 1500	Biological Science	3	4	0	5
BIO 1501	General Botany	3	4	0	5
BIO 1502	General Zoology	3	4	0	5
BIO 2304	Human Nutrition	3	0	0	3
CHM 1500	Introductory Chemistry	4	2	0	5
GEL 1604	Physical Geology	5	2	0	6
MAT 1504	College Algebra I	5	0	0	5
[2]	COMPUTATIONAL ELECTIVES: (Choose at least 3 hours)				
ACC 1604	Principles of Accounting I	5	2	0	6
FIN 3303	Personal Investing	3	0	0	3
FIN 3314	Business Mathematics I	3	0	0	3
FIN 4350	Personal Financial Management	3	0	0	3
MAT 1504	College Algebra I	5	0	0	5
MAT 3504	Technical Mathematics I	5	0	0	5
[3]	RELATED ELECTIVES: (Choose 9 hours)				
ENG 2308	Report Writing	3	0	0	3
HIS 1500	World Civilization I	5	0	0	5
HIS 1505	The Modern World	5	0	0	5
HUM 1300	The Ascent of Man	3	0	0	3
MAT 3505	Technical Mathematics II	5	0	0	5
PSC 4501	Constitutional La	5	0	0	5
PSC 4520	Public Relation	5	0	0	5
POL 1502	American Politics	5	0	0	5
POL 2500	State and Local Politics	5	0	0	5
SOC 2514	Introduction to Sociology	5	0	0	5
SOC 1301	Group Interaction	3	0	0	3
SPH 2300	Voice and Diction	3	0	0	3
SPH 2304	Public Speaking	3	0	0	3

[4] HUMANITIES/FINE ARTS ELECTIVE must be taken from ART, DRA, FRE, GER, HUM, MUS, PHI, or SPA prefixes.

Data Entry Operations (V129)

Official Program Description registered with the N.C. Department of Community Colleges:

The Data Entry Operations curriculum is designed to prepare the individual for employment in the field of data preparation and entry. Through study of data descriptions and formats, interpretations of source documents, and experience in using data entry devices, the individual will develop the knowledge and skills for employment as a data entry operator.

Certificate Awarded

A Certificate – Data Entry Operations is awarded by the College upon completion of this program.

For More Information

The Data Entry Operations program is in the Computer and Office Information Systems Department. For more information, call the Department office – 704/342-6549, or a Program Counselor – 704/342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
[1] EDP 5901	Data Entry I	4	15	9
EDP 5201	CRT Use in Business Applications	2	0	2
EDP 3310	Microcomputer Operations	2	2	3
FIN 3314	Business Mathematics I	3	0	3
				17
SECOND QUARTER				
[1]*EDP 5902	Data Entry II	4	15	9
* EDP 3324	Advanced Microcomputer Operations	1	4	3
ENG 5500	Communication Skills	5	0	5
				17

Total Credit Hours.....34

* Prerequisite or corequisite required; check course description.

[1] Evening students should take EDP 5601 Data Entry I-A, EDP 5602 Data Entry I-B and II-A, and EDP 5603 Data Entry II-B, instead of EDP 5901 Data Entry I and EDP 5902 Data Entry II.

Dental Assisting (V011)

Official Program Description registered with the N.C. Department of Community Colleges:

The Dental Assisting curriculum prepares graduates to assist the dentist in providing treatment services. Functions performed by the dental assistant include dental health education, preparing dental materials, preparing the patient for treatment, taking dental x-rays, maintaining dental supplies and equipment, assisting the dentist, providing selected services for the patient, making appointments, maintaining patient records and other office management procedures. Graduates may be employed by dental offices, dental clinics, public health clinics, federal service clinics, dental schools, state health departments, dental manufacturers, and insurance companies.

Diploma Awarded

A Diploma in Dental Assisting is awarded by the College upon completion of this program. Graduates are eligible to take the examination to become a Certified Dental Assistant that is given by the Dental Assisting National Board, Incorporated.

Note

Individuals desiring a career in dental assisting should, if possible, take biology, mathematics, and typing courses prior to entering the program. Once enrolled, a student must maintain a grade of C or better in all DEA- and HRC-prefixed courses in order to progress through the program.

Costs in the Dental Assisting Program, in addition to tuition and textbooks, include uniforms, lab coats, a physical examination, CPR certification, liability insurance, etc.

For More Information

The Dental Assisting program is in the Health Technologies Department. For more information, call the Program Director – 704/342-5951, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- A High School Diploma or equivalent is required.
- Applicants must be at least 18 years of age.
- There is a minimum required score on the English and reading placement tests.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
* DEA 5307	Infection Control	3	0	0	3
* DEA 5400	Anatomy for Dental Auxiliaries	4	0	0	4
* DEA 5502	Introduction to Dental Assisting	2	6	0	5
* DEA 5602	Dental Radiology	3	6	0	6
* ENG 1504	English Composition I	5	0	0	5
					23
SECOND QUARTER					
* DEA 5203	Office Emergencies and Pharmacology	2	0	0	2
* DEA 5303	Oral Health Education	2	2	0	3
* DEA 5724	Clinical Procedures I	2	6	6	7
* DEA 5601	Dental Materials	3	6	0	6
HRC 5302	Professional Interactions and the Health Worker	3	0	0	3
					21
THIRD QUARTER					
* DEA 5202	Oral Pathology	2	0	0	2
* DEA 5234	Dental Office Management	2	0	0	2
* DEA 5425	Clinical Procedures II	3	2	0	4
* DEA 5543	Dental Office Practice I	0	0	15	5
SPH 1300	Oral Communications	3	0	0	3
					16
FOURTH QUARTER					
*DEA 5104	Dental Assistant Seminar	1	0	0	1
*DEA 5544	Dental Office Practice IIA	0	0	15	5
*DEA 5545	Dental Office Practice IIB	0	0	15	5
EDP 3310	Microcomputer Operations	2	2	0	3
					14

Total Credit Hours.....74

* Prerequisite or corequisite required; check course description.

Dental Hygiene (T054)

Official Program Description registered with the N.C. Department of Community Colleges:

The Dental Hygiene curriculum prepares graduates to take patient histories, teach oral hygiene, clean teeth, take x-rays, and apply preventive agents under the supervision of a dentist. Dental hygienists may be employed in dentists' offices, clinics, schools, public health agencies, industry and educational institutions.

Degree Awarded

The Associate in Applied Science Degree – Dental Hygiene is awarded by the College upon completion of this program.

Graduates are eligible to take the National Board Dental Hygiene Examination, which is administered by the American Dental Association, Joint Commission on Dental Examinations; and the State Board Clinical Examination, which is administered by the North Carolina Board of Dental Examiners. A passing grade on both examinations is required for practice as a Registered Dental Hygienist in North Carolina.

Program Accreditation

The Dental Hygiene program at Central Piedmont Community College is accredited by the Commission on Dental Accreditation of the American Dental Association.

Note

Individuals desiring a career in Dental Hygiene should take biology, algebra, and chemistry courses prior to entering this program.

A grade of C or better is required in all courses required for

the dental hygiene program. This includes general education and related courses.

All students are required to be certified in First Aid and Cardiopulmonary Resuscitation before completion of DEN 3203, Office Emergencies.

Costs in this program, in addition to tuition and textbooks, include uniforms, instruments, physical examination, and vaccinations.

For More Information

The Dental Hygiene program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6431, weekdays, 9 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

Admission to this program is based on the following criteria:

1. High school grade point average (A High School Diploma is required.)
2. Completion of placement testing and required advancement studies courses
3. Aptitude for dental hygiene based on aptitude testing
4. Past work experience and employer references
5. Attendance at an orientation meeting
6. Completion of application data by January 8

First step to enroll:

Call the Welcome Center – 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER (WINTER)				
ENG 1504 English Composition I	5	0	0	5
BIO 1504 Anatomy and Physiology I	3	4	0	5
MAT1504 College Algebra I	5	0	0	5
				15
SECOND QUARTER (FALL)				
ENG 3405 Technical English II	4	0	0	4
* DEN 3401 Dental Anatomy	3	2	0	4
* DEN 3411 Preclinical Dental Hygiene I	2	4	0	4
CHM3502 Chemistry for Dental Hygiene	4	2	0	5
				17
THIRD QUARTER (WINTER)				
BIO 1505 Anatomy and Physiology II	3	4	0	5
* DEN 3202 Head and Neck Anatomy	2	0	0	2
* DEN 3302 Oral Embryology and Histology	3	0	0	3
* DEN 3512 Preclinical Dental Hygiene II	2	6	0	5
				15
FOURTH QUARTER (SPRING)				
* DEN 3203 Office Emergencies	2	0	0	2
DEN 3223 Dental Health Education	1	2	0	2
* DEN 3503 Dental Radiology	3	4	0	5
* DEN 3513 Clinical Dental Hygiene I	2	0	9	5
				14
FIFTH QUARTER (SUMMER)				
BIO 1503 Microbiology	3	4	0	5
SPH 1301 Persuasive Speaking	3	0	0	3
SOC 2514 Sociology	5	0	0	5
Humanities Elective	3	0	0	3
				16
SIXTH QUARTER (FALL)				
BIO 2304 Human Nutrition	3	0	0	3
* DEN 4305 Periodontology	3	0	0	3
* DEN 4505 Dental Materials	3	4	0	5
* DEN 4715 Clinical Dental Hygiene II	2	0	15	7
				18
SEVENTH QUARTER (WINTER)				
* DEN 4206 Chairside Assisting	1	2	0	2
* DEN 4226 Pharmacology	2	0	0	2
* DEN 4306 Pathology	3	0	0	3
* DEN 4406 Community Dental Health I	3	2	0	4
* DEN 4616 Clinical Dental Hygiene II	1	0	15	6
				17
EIGHTH QUARTER (SPRING)				
* DEN 4207 Community Dental Health II	1	0	3	2
DEN 4307 Dental Hygiene Practice	2	0	3	3
* DEN 4617 Clinical Dental Hygiene IV	1	0	15	6
				12

Total Credit Hours 123

* Prerequisite or corequisite required; check course description.

Diesel Vehicle Maintenance (V013)

Official Program Description registered with the N.C. Department of Community Colleges:

The Diesel Vehicle Maintenance curriculum provides a program for developing the basic knowledge and skills needed in diesel vehicle maintenance. Manual skills are developed in practical shop work.

The use of diesel engines is found in farm and construction equipment, electric generators, trucks, buses, trains, automobiles and ships. Many diesel vehicle mechanics specialize in maintenance and repair of equipment; others specialize in rebuilding engines.

Diesel vehicle mechanics are instructed through class assignments, discussion and shop practice to maintain and repair engines, chassis and suspensions, and power trains used to power farm equipment, construction equipment, buses and trucks. They use hand tools, precision measuring and testing instruments, and power tools in overhauling and maintaining diesel-powered equipment.

Diploma Awarded

A Diploma in Diesel Vehicle Maintenance is awarded by the College upon completion of this program.

For More Information

The Diesel Vehicle Maintenance program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6782, or the Technical Careers Department – 704/342-6930, weekdays, 8 a.m.-5p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or the equivalent is encouraged as a foundation for a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
DSL 5311	Fleet Maintenance Practices	2	2	3
DSL 5312	Basic Electricity	2	2	3
DSL 5300	Diesel Fundamentals	2	2	3
DSL 5304	Hydraulics and Pneumatics	2	2	3
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
WLD5210	Basic Oxyacetylene Welding	1	3	2
				18
SECOND QUARTER				
DSL 5313	Electrical – Electronic Testing	2	2	3
DSL 5308	Air Brakes	2	2	3
DSL 5411	Hydromechanical Diesel Injection Systems	2	4	4
DSL 5410	Diesel Engines I	2	4	4
PHY 5304	Applied Physics I	2	2	3
DSL 5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
				19
THIRD QUARTER				
DSL 5206	Cab Heating and Air Conditioning	1	3	2
DSL 5309	Electronic Diesel Injection Systems	2	2	3
DSL 5412	Diesel Engines II	2	4	4
DSL 5409	Heavy Duty Drive Train	2	4	4
HSA 5200	Human Relations	2	0	2
PHY 5305	Applied Physics II	2	2	3
WLD5220	Basic Electric Arc Welding	1	3	2
				20
FOURTH QUARTER				
DSL 5310	Diesel Tune-up and Troubleshooting	2	2	3
DSL 5408	Heavy Duty Chassis and Suspension Systems	2	4	4
EDP 3310	Microcomputer Operations	2	2	3
ENG 5500	Communication Skills	5	0	5
	Technical Elective	0	0	3
				18

Total Credit Hours.....75

	TECHNICAL ELECTIVES			
DSL 4400	Automotive Diesel Engines	2	6	4
DSL 5321	Transport Refrigeration	2	2	3
DSL 5205	Diesel Vehicle Maintenance Co-Op II	0	20	2
DSL 5207	Diesel Vehicle Maintenance Co-Op III	0	20	2

Diesel Vehicle Maintenance Certificates (V013-A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Diesel Vehicle Maintenance (V013) program.

For More Information

For more information, call the Program Director – 704/342-6782, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Diesel Vehicle Maintenance Certificate With a Specialization in Fuel Injection (V013-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PHY 5304	Applied Physics I	2	2	3
PHY 5305	Applied Physics II	2	2	3
AUT 5403	Basic Calculations	4	0	4
DSL 5312	Basic Electricity	2	2	3
DSL 5300	Diesel Fundamentals	2	2	3
DSL 5205	Diesel Vehicle Maintenance Co-Op II	0	20	2
DSL 5313	Electrical – Electronic Testing	2	2	3
DSL 5309	Electronic Diesel Injection Systems	2	2	3
DSL 5304	Hydraulics and Pneumatics	2	2	3
DSL 5411	Hydromechanical Diesel Injection Systems	2	4	4

Total Credit Hours.....31

Diesel Vehicle Maintenance Certificate With a Specialization in Engines (V013-B)

PHY 5304	Applied Physics I	2	2	3
PHY 5305	Applied Physics II	2	2	3
AUT 5403	Basic Calculations	4	0	4
DSL 5312	Basic Electricity	2	2	3
DSL 5410	Diesel Engines I	2	4	4
DSL 5412	Diesel Engines II	2	4	4
DSL 5300	Diesel Fundamentals	2	2	3
DSL 5310	Diesel Tune-Up and Troubleshooting	2	2	3
DSL 5204	Diesel Vehicle Maintenance Co-Op I	1	20	2
DSL 5313	Electrical – Electronic Testing	2	2	3
DSL 5304	Hydraulics and Pneumatics	2	2	3

Total Credit Hours.....35

Diesel Vehicle Maintenance Certificate With a Specialization in Fleet Service (V013-C)

PHY 5304	Applied Physics I	2	2	3
PHY 5305	Applied Physics II	2	2	3
AUT 5403	Basic Calculations	4	0	4
DSL 5312	Basic Electricity	2	2	3
DSL 5410	Diesel Engines I	2	4	4
DSL 5300	Diesel Fundamentals	2	2	3
DSL 5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
DSL 5313	Electrical – Electronic Testing	2	2	3
DSL 5311	Fleet Maintenance Practices	2	2	3
DSL 5304	Hydraulics and Pneumatics	2	2	3
EDP 3310	Microcomputer Operations	2	2	3

Total Credit Hours.....34

Drafting – Mechanical (V017)

Official Program Description registered with the N.C. Department of Community Colleges:

The Drafting – Mechanical curriculum prepares individuals

to enter the field of mechanical drafting. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The drafter associates with many personnel – administrators, engineers and skilled workers – and must be able to communicate effectively with them.

The mechanical drafting graduate performs the duties of a general drafter, specializing in making rough drafting sketches of proposed mechanical devices and then draws necessary details. The drafter also prepares accurate scale drawings of parts for machines from specifications.

Diploma Awarded

A Diploma in Mechanical Drafting is awarded by the College upon completion of this program.

Students may apply appropriate courses toward the Mechanical or Manufacturing Engineering Technology programs.

Note

The Mechanical Drafting program at CPCC is a comprehensive Computer Aided Drafting (CAD) curriculum that emphasizes CAD throughout the program from basic part drawings to complete detailing and assembly working drawings. Students gain extensive hands-on experience with both small and large CAD systems.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

The Mechanical Drafting program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Program Director – 704/342-6553, weekdays, 8 a.m.-5 p.m.

Admission

- High school students preparing for the Mechanical Drafting program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in mathematics and English determine entry-level courses that match individual needs. Advancement Studies (9000-series) math and English courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
* ENG 1504	English Composition I	5	0	5
MAT3504	Technical Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
EDP 3310	Microcomputer Operations	2	2	3
MEC3101	College and Career Orientation	1	0	1
				18
SECOND QUARTER				
* MAT3306	Technical Trigonometry	3	0	3
PHY 5304	Applied Science I	2	2	3
* DFT 3405	Mechanical Drafting II	2	6	4
* DFT 3314	Mech CAD 2D, AutoCAD OR	2	3	3
* DFT 3324	Mechanical Computer Aided Drafting (CAD) IBM CAD	2	3	3
MEC3404	Manufacturing Processes I	3	3	4
				17
THIRD QUARTER				
* PHY 5305	Applied Science II	2	2	3
* DFT 3327	Mech CAD 2D, CADAM OR	1	6	3
* DFT 3337	Mechanical Computer Aided Drafting (CAD) Interactive, Graphics (CATIA)			
MAC3201	Machine Operations for Engineering Technicians	1	3	2
* MEC3405	Manufacturing Processes II	3	3	4
* DFT 3317	CAD Detailing	1	6	3
				15
FOURTH QUARTER				
[1] MEC5214	Applied Metallurgy I	1	3	2
* ENG 3405	Technical English II	4	0	4
* DFT 3318	CAD Assembly	1	6	3
* ISC 4307	Introduction to Robotics	2	3	3
* MAC3202	CNC Programming and Machining for Engineering Technicians	1	2	2
				14
FIFTH QUARTER				
* DFT 3319	CAD Project	1	6	3
* DFT 3338	Mechanical Computer Aided Drafting (CAD) Solids Geometry, (CATIA) OR	1	6	3
* DFT 3320	Mech CAD 3D, AutoCAD			
[2] Technical Elective		3	0	3
[1] MEC5215	Applied Metallurgy II	1	3	2
	Art/Humanities OR Behavioral/Social Science Elective	2	0	2
				13

Total Credit Hours.....75

* Prerequisite or corequisite required; check course description.

[1] Cannot be applied for credit toward Mechanical or Manufacturing Associate Degrees (T051 and T050). MEC 4403, Engineering Materials, may be substituted for MEC 5214 and MEC 5215 and may be applied for credit toward the associate degrees, as well as the V-017 diploma.

[2] RECOMMENDED TECHNICAL ELECTIVES:

COE 3100 Introduction to Co-Op Work Experience
* DFT 3324 Mechanical Computer Aided Drafting (CAD) IBM CAD
* DFT 3406 Descriptive Geometry with CAD
DFT 4300 Mechanical Blueprint Reading
EDP 3405 Microcomputer Programming - BASIC
* ELN 4464 Electronic Circuit Design (CAD) I
* ISC 3307 Introduction to CIM
* ISC 3314 Computer-Assisted Manufacturing (CAM)
* ISC 4305 Plant Layout and Materials Handling
* MAC3202 CNC Programming and Machining for Engineering Technicians
* MEC 4284 Cooperative Work Experience I
* MEC 4285 Cooperative Work Experience II
* MEC 4434 Hydraulics and Pneumatics

Early Childhood Associate (T073)

Official Program Description registered with the N.C. Department of Community Colleges:

The Early Childhood Associate curriculum prepares individuals to work with programs and/or centers concerned with the care and development of infants and young children. Through study and application in such areas as child growth and development, physical and nutritional needs of children, care and guidance of children, and communication with children and their parents, individuals will be able to function effectively in various programs and/or centers dealing with preschool children.

Job opportunities are available in such areas as day care centers, nursery schools, kindergartens, child development centers, hospitals, rehabilitation clinics, evaluation clinics, campus and recreation centers.

Degree Awarded

The Associate in Applied Science Degree – Early Childhood is awarded by the College upon completion of this program.

Program Accreditation

Early Childhood Associate and Human Services Associate courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit.

Note

This is a two-year sequential program requiring completion of 111 quarter credit hours as follows: 67 credit hours of Major Courses, 25 credit hours of Related Courses, and 19 credit hours of General Education Courses.

Students will meet with the Faculty Advisor each quarter before registration to obtain permission for the next step in the series of required courses and to set up lab experiences. Students may obtain a suggested course sequence list from the Program Counselor or the Program Director.

For More Information

The Early Childhood Associate program is in the Human Services Department. For more information, call the Program Director – 704/342-6729, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- After completing the Admissions Form and placement tests, students will meet with the Program Counselor before they see the Program Director. An interview with the Program Director is required for entrance into the program.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
FIRST QUARTER					
HSA 3501	Introduction to Human Services	5	0	0	5
* ECA 5501	Child Development	3	0	6	5
* ECA 3400	Guidance for Young Children OR	3	0	3	4
ECA 5510	CDA Practical Lab I	3	0	20	5
ECA 3311	Materials and Activities for the Young Child OR	3	0	0	3
ECA 3309	Materials and Activities for Infants and Toddlers OR	3	0	0	3
ECA 5511	CDA Practical Lab II	3	0	20	5
MUS 1304	Children's Music I	3	0	0	3
		20			23
SECOND QUARTER					
HSA 3502	Interpersonal Relationships	5	0	0	5
* ECA 4509	The Preschool Teacher in the Classroom OR	3	0	6	5
ECA 5513	LDA Practical Lab III OR	3	0	20	5
ECA 3307	Child Care Credential I	3	0	0	3
* ECA 3326	Advanced Materials and Activities	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
HED 1302	Sexual Development of Children	3	0	0	3
					21
THIRD QUARTER					
* HSA 3340	Client Group Dynamics	3	0	0	3
* HSA 3341	Interpersonal Relationships II	3	0	0	3
* ECA 3403	Introduction to Day Care Administration	3	0	0	3
* ECA 3511	Infant-Toddler Development	3	0	3	4
* MUS 1305	Children's Music II	3	0	0	3
SOC 1500	Sociology of the Family	5	0	0	5
					23
FOURTH QUARTER					
* ECA 4614	Advanced Classroom Teaching	2	0	12	6
ECA 3310	The Exceptional Child	3	0	0	3
* ENG 1504	English Composition I	5	0	0	5
ECA 4310	Adult-Child Relations OR	3	0	0	3
ECA 5512	CDA Practical Lab II	3	0	20	5
ECA 3308	Child Care Credential II	3	0	0	3
HED 1204	First Aid	1	2	0	2
		(21)			19
FIFTH QUARTER					
SWK 3421	Helping and Behavioral Stress	4	0	0	4
* ECA 4500	Working With Parents	3	0	6	5
* ECA 3510	School Age Child Care OR	3	0	6	5
ECA 3360	Understanding Adolescence	3	0	0	3
* ENG 3405	Technical English	4	0	0	4
					21
SIXTH QUARTER					
* ECA 4508	Senior Internship	1	0	12	5
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
BIO 2308	Nutrition for the Child	3	0	0	3
Elective		1	0	0	1
					11

Total Credit Hours 111

*Prerequisite or corequisite required; check course description.

Early Childhood Certificates (T073-A. B. C. D)

Specialization Certificates

The Certificates listed below can be earned in the Early Childhood Associate (T073) program and can be applied toward the Early Childhood Associate Degree.

For More Information

The Early Childhood Certificate program is in the Human Services Department. For more information, call the Program Director – 704/342-6729, weekdays, 8 a.m.-5 p.m.

Admissions
First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
The Early Childhood Associate Certificate With A Specialization to qualify as a Teacher Assistant. (T073-A)					
ECA 3311	Materials and Activities for the Young Child OR	3	0	0	3
ECA 3309	Materials and Activities for Infants and Toddlers	3	0	0	3
ECA 3400	Guidance for Young Children	3	0	3	4
ECA 4509	The Preschool Teacher in the Classroom	3	0	6	5
HSA 5501	Child Development	3	0	6	5
ECA 4310	Adult-Child Relations	3	6	0	3

Total Credit Hours.....20

***Note**: CDA and other courses may substituted at the discretion of the Program Director.

Early Childhood Association Certificate With A Specialization In Child Development (T073-B)					
HED 1302	Sexual Development of Children	3	0	0	3
MUS 1304	Children's Music	3	0	0	3
ECA 3226	Advanced Materials and Activities	3	0	0	3
ECA 3510	School Age Child Care OR				
ECA 3511	Infant-Toddler Development				
ECA 4500	Working With Parents	3	0	6	5

Total Credit Hours.....19

Early Childhood Associate Certificate With A Specialization In Family Child Care (T073-C)					
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
HED 1204	First Aid	2	0	0	2
BIO 2308	Nutrition for the Child	3	0	0	3
ECA 3309	Materials and Activities for Infants and Toddlers OR	3	0	0	3
ECA 3311	Materials and Activities for the Young Child	3	0	0	3
ECA 4500	Working with Parents	3	0	6	5
ECA 3511	Infant-Toddler Development	3	0	6	5
ECA 5501	Child Development	3	0	6	5

Total Credit Hours.....23

***Note:** Graduates of the Family-to-Family program should consult the Program Director for possible course substitutions.

Early Childhood Associate Certificate With A Specialization In Day Care Administration (T073-D)					
ECA 3400	Guidance for Young Children	3	0	3	4
ECA 5501	Child Development	3	0	6	5
ECA 4500	Working with Parents	3	0	6	5
ECA 3403	Introduction to Day Care Administration	3	0	3	4
ECA 4509	The Preschool Teacher in the Classroom	3	0	6	5

Total Credit Hours.....23

Electrical Engineering Technology (T044)

Official Program Description registered with the N.C. Department of Community Colleges:

This curriculum is designed to train technicians for jobs in the areas of research, design, development, production, maintenance, and sale of electrical and power generation equipment.

The electrical engineering technician may work as a laboratory technician or as an engineering aide in research, design or development in direct support of an engineer, or as a liaison between the engineer and the skilled craftsperson. The graduate may accept a position in maintenance or sales work requiring a strong background in electrical equipment design and operation.

Degree Awarded

The Associate in Applied Science Degree – Electrical Engineering Technology is awarded by the College upon completion of the program.

Program Accreditation

The Electrical Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Electrical Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electrical specialty courses that provide concentrated study in various fields of the electrical industry, including industrial controls, planning electrical installations, power electronics, electrical machines and programmable logic controllers, and automated manufacturing/robotics.

The Computer/Electrical/Electronics Engineering Technology laboratories are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics, programmable logic controllers, electrical machines, and robotics.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the CPCC Catalog in effect at the time of re-entry.

For More Information

The Electrical Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Computer/Electrical/Electronics Program Director – 704/342-6479, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ELN 3100	Computer/Electrical/Electronics Orientation	1	0	1
* ELN 3514	Basic Electricity (DC)	3	6	5
EDP 3335	Microcomputer Programming - MS/DOS	2	2	3
* MAT 3507	Engineering Technology Math I	5	0	5
* ENG 1504	English Composition I	5	0	5
				19
SECOND QUARTER				
* ELN 3515	Basic Electricity (AC)	3	6	5
EDP 1407	Computer Concepts and PASCAL Programming I	3	2	4
* MAT 3508	Engineering Technology Math II	5	0	5
[1]* ENG 3405	Technical English II	4	0	4
				18
THIRD QUARTER				
* ELN 3404	Electronics I	3	3	4
* ELN 4444	Network Analysis	3	3	4
* ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
* MAT 3509	Engineering Technology Math III	5	0	5
				17
FOURTH QUARTER				
* ELN 3405	Electronics II	3	3	4
* ELN 4427	Digital Circuits I	3	3	4
* ELN 4525	Electrical Machines I	3	6	5
* PHY 1404	Physics I: Basic Mechanics	3	2	4
				17
FIFTH QUARTER				
* ELN 3414	Industrial Instrumentation	3	3	4
* ELN 4401	Planning Electrical Installations	3	3	4
* ELN 4526	Electrical Machines II	3	6	5
* PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
Elective		1	0	1
				18
SIXTH QUARTER				
* ELN 4100	Technical Career Planning	1	0	1
* ELN 4326	Electrical/Electronics Project	1	6	3
* ELN 4415	Industrial Programmable Controllers	3	3	4
SPH 1300	Oral Communications	3	0	3
[2] ELN	Technical Elective			4
Social/Behavioral Science Elective		3	0	3
				18
SEVENTH QUARTER				
* ELN 4505	Power Electronics	3	6	5
* ELN 4436	Systems Correction Procedure	3	3	4
[2] ELN	Technical Elective			4
* PHY 1407	Physics IV: Modem Physics	3	2	4
Humanities/Fine Arts Elective		3	0	3
				20

Total Credit Hours 127

* Prerequisite or corequisite required; check course description.

[1] **Note:** ENG 1505 may be substituted for ENG 3405

[2] TECHNICAL ELECTIVES:
* ELN 4284 Cooperative Work Experience I
* ELN 4285 Cooperative Work Experience II
* ELN 4345 Advanced Electrical/Electronics Topics
* ELN 4434 Digital Circuits II
* ELN 4437 Robotics
* ELN 4445 Advanced Programmable Logic Controllers
* ELN 4465 Electronic Circuit Design (CAD) II
* ELN 4547 Microprocessors I
* ELN 4557 Microprocessors II

Electrical Installation and Maintenance (V018)

Official Program Description registered with the N.C. Department of Community Colleges:

The Electrical Installation and Maintenance curriculum is designed to provide a training program in the basic knowledge, fundamentals and practices involved in the electrical trades. A large segment of the program is laboratory and shop instruction designed to give the student practical knowledge and application experience in the fundamentals taught in class.

The graduate of this curriculum is qualified to enter an electrical trade as an on-the-job trainee or apprentice, assisting in the layout, installation, check-out and maintenance of systems in residential, commercial or industrial settings.

Diploma Awarded

A Diploma in Electrical Installation and Maintenance is awarded by the College upon completion of this program.

For More Information

The Electrical Installation and Maintenance program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6772, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of the High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ELC 5400	Direct Current	2	6	4
ELC 5401	Basic Calculations for Electricians	4	0	4
ELC 5410	Residential Wiring I	3	3	4
PHY 5304	Shop Science I	2	2	3
HSA 5200	Human Relations	2	0	2
				17
SECOND QUARTER				
* ELC 5402	Alternating Current	3	3	4
* ELC 5425	Residential Wiring II	2	6	4
ELC 5200	Electrical and Building Trades Blueprint Reading	1	2	2
ELC 5450	Machines and Control I	2	6	4
ENG 5500	Communication Skills	5	0	5
				19
THIRD QUARTER				
* ELC 5455	Machines and Controls II	2	6	4
ELC 5404	Commercial and Industrial Wiring I	2	6	4
ELC 5310	Electrical Schematics	2	3	3
ELC 5426	Programmable Controllers I	2	6	4
AHR 5314	Automatic Controls	2	3	3
				18

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FOURTH QUARTER				
* ELC 5403	Commercial and Industrial Wiring II	2	6	4
ELC 5411	Industrial Electronics	3	3	4
ELC 5302	Instrumentation	2	3	3
* ELC 5427	Programmable Controllers II	2	6	4
WLD 5220	Basic Electric Arc Welding	1	3	2
				17

Total Credit Hours.....71

* Prerequisite required; check course description.

Electrical Installation and Maintenance Certificates (V018-A. B. C)

Specialization Certificates

The Certificates listed below can be earned in the Electrical Installation and Maintenance (V018) program.

For More Information

For more information, call the Program Director – 704/342-6672, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Electrical Installation and Maintenance Certificate With a Specialization in Residential Wiring (V018-A)

ELC 5401	Basic Calculations for Electricians	4	0	4
ELC 5200	Blueprint Reading	1	2	2
ELC 5400	Direct Current	2	6	4
ELC 5410	Residential Wiring I	3	3	4
ELC 5425	Residential Wiring II	2	6	4
				18

Electrical Installation and Maintenance Certificate With a Specialization in Commercial and Industrial Installation (V018-B)

ELC 5401	Basic Calculations for Electricians	4	0	4
WLD 5220	Basic Electric Arc Welding	1	3	2
ELC 5200	Blueprint Reading	1	2	2
ELC 5404	Commercial and Industrial Wiring I	2	6	4
ELC 5403	Commercial and Industrial Wiring II	2	6	4
ELC 5411	Industrial Electronics	2	4	4
				20

Electrical Installation and Maintenance Certificate With a Specialization in Electrical Controls (V018-C)

ELC 5310	Electrical Schematics	2	3	3
ELC 5302	Instrumentation	2	3	3
ELC 5450	Machines and Controls I	2	6	4
ELC 5455	Machines and Controls II	2	6	4
ELC 5426	Programmable Controllers I	2	6	4
ELC 5427	Programmable Controllers II	2	6	4
				22

Electronics Engineering Technology (T045)

Official Program Description registered with the N.C. Department of Community Colleges:

The Electronics Engineering Technology curriculum provides a basic background in electronic-related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronic technician will start in one or more of the following areas: research, design, development, production, maintenance, or sales. The graduate may begin as a electronics technician, an engineering aide, laboratory technician, supervisor, or equipment specialist.

Degree Awarded

The Associate in Applied Science Degree – Electronics Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Electronics Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

Electronics Engineering Technology involves the practical application of electrical and electronic fundamentals of design, fabrication, manufacturing, testing, repair, and maintenance of electronic components, circuits, and systems. The electronics engineering technician is concerned with analog and digital circuitry, microprocessors, microcomputers, and their practical application in modern industrial settings.

The Electronics Engineering Technology curriculum provides a basic background in the practical application of both fundamental and specialized electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electronic specialty courses that provide concentrated study in various fields of the electronic industry, including computer-electronics, microprocessors, systems maintenance, data communication, robotics, and printed circuit board layout and design using CAD.

The Computer/Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours in order that students may devote as much time as possible to laboratory assignments. These modern facilities include state-of-the-art equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics and robotics.

Completion of this program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the CPCC Catalog in effect at the time of re-entry.

For More Information

The Electronics Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881 or, the Computer/Electrical/Electronics Program Director – 704/342-6479, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology

program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.

- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ELN 3100	Computer/Electrical/Electronics Orientation	1	0	1
* ELN 3514	Basic Electricity (DC)	3	6	5
EDP 3335	Microcomputer Programming – MS/DOS	2	2	3
* MAT3507	Engineering Technology Math I	5	0	5
* ENG 1504	English Composition I	5	0	5
				19
SECOND QUARTER				
* ELN 3515	Basic Electricity (AC)	3	6	5
EDP 1407	Computer Concepts and PASCAL Programming I	3	2	4
* MAT3508	Engineering Technology Math II	5	0	5
[1] * ENG 3405	Technical English II	4	0	4
				18
THIRD QUARTER				
* ELN 3404	Electronics I	3	3	4
* ELN 4444	Network Analysis	3	3	4
* ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
* MAT3509	Engineering Technology Math III	5	0	5
				17
FOURTH QUARTER				
* ELN 3405	Electronics II	3	3	4
* ELN 4427	Digital Circuits I	3	3	4
* ELN 4525	Electrical Machines I	3	6	5
* PHY 1404	Physics I: Basic Mechanics	3	2	4
				17
FIFTH QUARTER				
* ELN 3414	Industrial Instrumentation	3	3	4
* ELN 4434	Digital Circuits II	3	3	4
* ELN 4547	Microprocessors I	3	6	5
* PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
Elective		1	0	1
				18
SIXTH QUARTER				
* ELN 4100	Technical Career Planning	1	0	1
* ELN 4326	Electrical/Electronics Project	1	6	3
[2] ELN	Technical Elective			4
[2] ELN	Technical Elective			4
SPH 1300	Oral Communications	3	0	3
Social/Behavioral Sciences Elective		3	0	3
				18
SEVENTH QUARTER				
* ELN 4436	Systems Correction Procedure	3	3	4
[2] ELN	Technical Elective			4
[2] ELN	Technical Elective			4
* PHY 1407	Physics IV: Modern Physics	3	2	4
Humanities /Fine Arts Elective		3	0	3
				19

Total Credit Hours 126

* Prerequisite or corequisite required; check course description.

[1] **Note:** ENG 1505 may be substituted for ENG 3405.

[2] TECHNICAL ELECTIVES:
*ELN 4284 Cooperative Work Experience I
*ELN 4285 Cooperative Work Experience II
*ELN 4345 Advanced Electrical/Electronics Topics
*ELN 4355 Laser Technology
*ELN 4414 Introduction to RF Communications
*ELN 4415 Industrial Programmable Controllers
*ELN 4416 Computer Maintenance I
*ELN 4437 Robotics
*ELN 4445 Advanced Programmable Logic Controllers
*ELN 4454 Data and Computer Communications I
*ELN 4456 Local Area Networks
*ELN 4465 Electronic Circuit Design (CAD) II
*ELN 4468 Advanced Microprocessors
*ELN 4474 Electro-Optics
*ELN 4475 Fiber Optics
*ELN 4476 Optical Recording Technology
*ELN 4485 Microwave Communications
*ELN 4505 Power Electronics
*ELN 4557 Microprocessors II
*ELN 4567 Microcomputer System Design

Fashion Merchandising and Marketing (T143)

Official Program Description registered with the N.C. Department of Community Colleges:

The Fashion Merchandising and Marketing curriculum is designed to provide individuals with fundamental skills in fashion and merchandising activities. The individual will become familiar with the properties, characteristics, and construction of fabrics, leather, fur, millinery, wigs, jewelry, and cosmetics. Emphasis will be placed on selling techniques, buying, merchandising, displaying, pricing, stock planning and control.

Employment opportunities as assistant buyers, buyers, fashion coordinators, fashion stylists, indoor display specialists, merchandise clerks and store managers or owners will be available in department store and specialty stores, wholesale and manufacturing firms, buying offices, and advertising agencies.

Degree Awarded

The Associate in Applied Science Degree – Fashion Merchandising and Marketing is awarded by the College upon completion of this program.

Note

Students apply what they learn in the classroom by planning and implementing live projects and field trips. Through participation in Cooperative Education, students work in their chosen fields gaining valuable job experience while obtaining college credit. Charlotte is a base of operation for national and local retailers and has a large apparel industry. The Cooperative Education office works closely with retailers of all sizes and with the Charlotte Apparel Mart in matching student interests and competencies.

For More Information

The Fashion Merchandising and Marketing program is in the Business Administration Department. For more information, call the Program Director – 704/342-6529 or 6646, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics and reading determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER						
ART	1300	Introduction to Art	3	0	0	3
BUS	1500	Introduction to Business	5	0	0	5
FAS	3300	Introduction to Fashion Merchandising	3	0	0	3
MKT	3320	Fundamentals of Selling	3	0	0	3
MKT	4320	Retailing	3	0	0	3
						17
SECOND QUARTER						
ENG	1504	English Composition I	5	0	0	5
FIN	3314	Business Math I OR				
MAT	1504	College Algebra	3	0	0	3
MKT	1304	Marketing I	3	0	0	3
MKT	4305	Advanced Selling Skills	3	0	0	3
MKT	4385	Service Marketing	3	0	0	3
						17
THIRD QUARTER						
ENG	3405	Technical English II	4	0	0	4
FAS	3320	Psychology of Fashion	3	0	0	3
FIN	3315	Business Math II	3	0	0	3
MKT	1305	Marketing II	3	0	0	3
MKT	4354	Visual Merchandising	3	0	0	3
						16
FOURTH QUARTER						
BUS	3300	Human Relations I	3	0	0	3
FAS	3310	Retail Advertising and Promotion	3	0	0	3
MKT	4340	Merchandising	3	0	0	3
[1]General Education (Math or Science)			5	0	0	5
[2]Technical Elective			2	0	0	2
						16
FIFTH QUARTER						
BUS	3305	Human Relations II	3	0	0	3
EDP	3310	Microcomputer Operations	2	2	0	3
MKT	3204	Cooperative Education I	0	0	20	2
MGT	2314	Principles of Management	3	0	0	3
MGT	4322	Purchasing	3	0	0	3
FAS	4310	Store Operations	3	0	0	3
						17
SIXTH QUARTER						
EDP	3324	Advanced Microcomputer Operations	2	2	0	3
MKT	3205	Cooperative Education II	0	0	20	2
MGT	4332	Human Resources Management I	3	0	0	3
MKT	4321	Advertising	3	0	0	3
SPH	1300	Oral Communications	3	0	0	3
[2]Technical Elective			2	0	0	2
						16
SEVENTH QUARTER						
MKT	3206	Cooperative Education III	0	0	20	2
MGT	3303	Small Business Management	3	0	0	3
MKT	3330	Introduction to Textiles	3	0	0	3
MKT	4384	Customer Service	3	0	0	3
SPH	2300	Voice and Diction	3	0	0	3
[2]Technical Elective			3	0	0	3
						17

Total Credit Hours 116

[1] GENERAL EDUCATION ELECTIVE - Math or Science. Must be selected from MAT, GEL, BIO, CHM, GEO, or PHY prefixes.

[2] TECHNICAL ELECTIVES. Students will select at least 7 credit hours from the following courses :

FAS	3210	Fashion Show Production	1	2	0	2
FAS	4220	New York Study	1	2	0	2
MKT	4325	Sales Management	3	0	0	3
INT	3300	Introduction to International Business	3	0	0	3
TRN	4356	Physical Distribution Management	3	0	0	3
INT	3305	International Marketing	3	0	0	3
MKT	4387	Public Relations	3	0	0	3

Fire Protection Technology (T063)

Official Program Description registered with the N.C. Department of Community Colleges:

The Fire Protection Technology curriculum is designed to enable individuals to draw on technical and professional knowledge in making effective decisions concerning fire protection. Through technical education, the individual acquires specialized knowledge in the field of public service and develops specific competencies for the performance of fire service administrative and supervisory duties. The curriculum includes areas such as the scientific understanding of fire hazards and their control and general courses that prepare one to work with people harmoniously.

Opportunities are excellent for the individual with adequate training and ability. Students seeking employment may be hired by governmental agencies, industrial firms, educational organizations and insurance rating organizations. Employed persons should have opportunities for positions requiring increased skill and responsibility as they increase their job competence.

Degree Awarded

The Associate in Applied Science Degree – Fire Protection Technology is awarded by the College upon completion of this program.

Note

Students may obtain a suggested course sequence list from a Program Counselor or the Program Director.

For More Information

The Fire Protection Technology program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-6705, weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests are required for admission to particular courses.

First step to enroll:
Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CL /WK	HRS CR/ QTR
MAJOR COURSES						
FIP	3301	Fire Prevention Programs and Public Relations	2	2	0	3
FIP	3303	Fire Protection I	3	0	0	3
FIP	3401	Plant Emergency Operations	3	2	0	4
* FIP	3404	Chemistry of Flammable Materials	3	2	0	4
* FIP	3405	Flame Propagation and Material Rating	2	4	0	4
FIP	3406	Arson Investigation I	3	2	0	4
* FIP	3408	Arson Investigation II	3	2	0	4
FIP	4304	Fire Protection Law	3	0	0	3
* FIP	4403	Hydraulics for Fire Protection	3	2	0	4
* FIP	4404	Water Distribution Systems	3	2	0	4
FIP	4405	Sprinkler and Standpipe Systems	3	2	0	4
FIP	4414	Inspection Principles and Building Codes	3	0	3	4
FIP	4423	Portable and Fixed Extinguishing Systems	3	2	0	4
FIP	4424	Automatic Alarm Systems	3	2	0	4
* FIP	4434	Chemical and Radiation Hazards	3	2	0	4
FIP	4444	Fire Fighting Strategy	3	2	0	4
FIP	4454	Building Construction	3	2	0	4
* FIP	4464	Hazardous Material Analysis and Emergency Planning	2	4	0	4
						69
RELATED COURSES						
ARC	3334	Architectural Drafting I (Basic)	1	0	6	3
EDP	3310	Microcomputer Operations	2	2	0	3
FIP	4314	Methods of Teaching	3	0	0	3
MAT	3504	Technical Mathematics I	5	0	0	5
MGT	2314	Principles of Management	3	0	0	3
MGT	4330	Supervision	3	0	0	3
' Electives			8	0	0	8
			25	2	6	28
GENERAL EDUCATION						
* CHM	1500	Introductory Chemistry	4	2	0	5
* ENG	1504	English Composition I	5	0	0	5
* ENG	3405	Technical English II	4	0	0	4
PSY	1500	Psychology of Adjustment	5	0	0	5
Humanities/Fine Arts Elective (Choose from the following prefixes: ART, DRA, ENG, HUM, MUS, PHI, and SPH)			3	0	0	3
			21	2	0	22
Free Elective						3

Total Credit Hours 122

* Prerequisite or corequisite required; check course description.

' ELECTIVES: Choose 8 hours from the following:

			HRS CLS /WK	HRS LAB /WK	HRS CL /WK	HRS CR/ QTR
* FIP	4510	Hydraulic Design of Sprinkler Systems	4	2	0	5
* FIP	4309	Incident Management Systems	3	0	0	3
FIP	4409	Fire Department Tactics and Strategy	3	2	0	4
FIP	3309	Leadership and Team Building	3	0	0	3
FIP	4509	Managing Our Fire Department	5	0	0	5
HSE	4401	Environmental Regulations	4	0	0	4
HSE	4503	Environmental Management and Control	5	0	0	5
* MAT	3505	Technical Mathematics II	5	0	0	5
SWK	3421	Helping and Behavioral Stress	4	0	0	4

Additional courses may be chosen from the following prefixes: BUS, MGT, CIV, EDP, HSA, INS, PSC, and DFT 3003

Foodservice Management (Chef Training) (T074)

Official Program Description registered with the N.C. Department of Community Colleges:

The Foodservice Management curriculum trains students at the supervisory or "middle management" level in foodservice with particular emphasis on institutional foodservice. Students completing the first year of this curriculum and desiring additional study in supervision and management may continue for the second year or exit after the fourth quarter with a diploma as a Foodservice Specialist.

In addition to having a sound foundation in the science of food preparation and service, students will develop an understanding of the basic science and principles of quantity food preparation, an appreciation of accuracy and the use of standards in production, an increased knowledge of the space and equipment requirements for quantity food production and service operations of various types, and some ability to evaluate the effectiveness of the operation of a foodservice department. Also, students will understand pricing and cost controls, principles of nutrition as applied to institutional menu planning, safe methods of work performance, and appreciation of sanitation and hygiene in a foodservice operation.

The career opportunities available to a graduate of the Foodservice Management curriculum are dietetic assistant, food science supervisor, foodservice manager, dietary technician, unit manager and chef-manager. Employment opportunities are available in hospitals, nursing homes, child care centers, college and university foodservice, school foodservice, industrial cafeterias, private clubs, airline foodservice, food processing manufacturers, foodservice contract companies and commercial restaurants.

Degree Awarded

The Associate in Applied Science Degree – Foodservice Management is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, the estimated cost for tools and uniforms is $125.

For More Information

The Foodservice Management program is in the Hospitality Technology Department. For more information, call the Program Director – 704/342-6301, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

• A High School Diploma is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK	HRS CLS QTR
FIRST QUARTER					
HRM 3300	Introduction to Hotel/Restaurant Management	3	0	0	3
FSO 3504	Food Preparation I	2	0	9	5
FSO 4200	Equipment Usage, Layout and Design	2	0	0	2
FSO 4414	Garde Manger I	2	0	6	4
FSO 4300	Sanitation	3	0	0	3
EDP 1500	Computer Literacy	5	0	0	5
					22
SECOND QUARTER					
* FSO 3505	Food Preparation II	2	0	9	5
FSO 4407	Baking I	2	0	6	4
FIN 3314	Business Mathematics	3	0	0	3
FIP 3200	Fire Protection	2	0	0	2
PHY 1500	Introduction to Astronomy	4	2	0	5
					19
THIRD QUARTER					
FSO 3301	Nutrition	3	0	0	3
* ENG 1504	English Composition I	5	0	0	5
* FSO 3506	Food Preparation III	2	0	9	5
* FSO 4415	Garde Manger II	2	0	6	4
TAT 4307	History of Beverages	3	0	0	3
					20
FOURTH QUARTER					
ACC 3500	Small Business Accounting	5	0	0	5
FSO 4304	Food and Labor Cost Controls	3	0	0	3
* FSO 4408	Baking II	2	0	6	4
FSO 4208	Cooperative Education	0	0	20	2
BUS 3300	Human Relations	3	0	0	3
					17
FIFTH QUARTER					
SPH 2304	Public Speaking	3	0	0	3
* FSO 4409	Baking III	2	6	0	4
* FSO 4416	Garde Manger III	2	6	0	4
* FSO 4506	Food Preparation IV	2	9	0	5
Elective		3	0	0	3
					19
SIXTH QUARTER					
* ENG 3405	Technical English II	4	0	0	4
* HRM4400	Restaurant Service Management	2	6	0	4
* FSO 4419	Baking IV	2	6	0	4
FSO 4303	Food Purchasing	3	0	0	3
ECO 3300	Introduction to Economics	3	0	0	3
					18

Total Credit Hours 115

* Prerequisite or corequisite required; check course description.

GENERAL EDUCATION ELECTIVE – FRE, GER, or SPA.

General Office Technology (T033)

Official Program Description registered with the N.C. Department of Community Colleges:

The purposes of the General Office curriculum are to prepare the individual to enter clerical office occupations, provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from present position to a clerical position) and to provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through skill development in the areas of word processing, filing, and business machines. Through these skills and through development of personal competencies and qualities, an individual will be able to function effectively in office-related activities.

Degree Awarded

The Associate in Applied Science Degree – General Office Technology is awarded by the College upon completion of this program.

Note

Credit by examination for some SEC courses can be arranged by contacting the Program Director.

A suggested list of required courses for full-time students is listed below.

For More Information

The General Office Technology program is in the Computer and Office Information Systems Department. For more information, contact the Program Director – 704/342-6781, a Program Counselor – 704/342-6426 or 6229, or the Department office – 704/342-6549, weekdays, 9 a.m.-4 p.m.

Admissions

• A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3303	Keyboarding	1	4	0	3
ENG 3515	Essentials of Grammar	5	0	0	5
SEC 3302	Effective Word Techniques	3	0	0	3
SEC 4324	Information Processing Concepts	3	0	0	3
BUS 3300	Human Relations I	3	0	0	3
					17
SECOND QUARTER					
* SEC 3405	Document Formatting I	3	2	0	4
* ENG 1504	English Composition I	5	0	0	5
SEC 3320	Personal Projection	3	0	0	3
BUS 2304	Business Law I	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
SEC 3104	Electronic Calculators	0	2	0	1
					19
THIRD QUARTER					
SEC 3305	Editing, Proofreading and Reference Skills	3	0	0	3
SEC 4370	Records Management	3	0	0	3
FIN 3314	Business Mathematics I	3	0	0	3
SPH 2300	Voice and Diction	3	0	0	3
* SEC 4429	Word Processing I	3	2	0	4
ECO 3300	Introduction to Economics	3	0	0	3
					19
FOURTH QUARTER					
SEC 3311	Receptionist Skills	3	0	0	3
* SEC 3406	Document Formatting II	3	2	0	4
* SEC 4430	Word Processing II	3	2	0	4
[1]	Related Elective	3	0	0	3
[2]	General Education Elective	3	0	0	3
					17

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
FIFTH QUARTER					
* SEC 4407	Document Production	3	2	0	4
* SEC 4305	Business Communications	3	0	0	3
* SEC 4425	Machine Transcription	3	2	0	4
* SEC 4201	Secretarial Cooperative Experience 1	0	0	20	2
[1] Related Elective					3
Elective					1
					17
SIXTH QUARTER					
ACC 1604	Principles of Accounting I OR				
ACC 3600	General Accounting	5	2	0	6
* SEC 4517	General Office Procedures	5	0	0	5
* EDP 3324	Advanced Microcomputer Operations	2	2	0	3
[3] Technical Elective		2	0	0	2
					16

Total Credit Hours 107

* Prerequisite or corequisite required; check course description.

[1] RELATED ELECTIVES – Choose from the following prefixes: ACC, ADV, BAF, BUS, EDP, FIN, INS, INT, LEX, MED, MGT, MKT, RES, or TRN. An approved list may be obtained from the Program Director or Program Counselor.

[2] GENERAL EDUCATION ELECTIVES - To be chosen from ECO, ENG, PSY, SOC, or SPH prefixes

[3] TECHNICAL ELECTIVES – To be selected from:
SEC 3001 Legal Terminology and Vacabulary
SEC 3414 Shorthand I
SEC 4400 Typing Skill Building,

General Office Technology Certificates (T033-A. B)

The certificates listed below can be earned in the General Office Technology program (T033).

For More Information

The General Office Technology program is in the Computer and Office Information Systems Department. For more information, contact the Program Director – 704/342-6781, a Program Counselor – 704/342-6426 or 6229, or the Department office – 704/342-6549, weekdays, 9 a.m.-4 p.m.

Admission

First step to enroll:

Call the Welcome Center – 704/342-6719.

General Office Basic Certificate (T033-A)

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
FIN 3314	Business Mathematics I	3	0	0	3
SEC 3305	Editing, Proofreading, and Reference Skills	3	0	0	3
SEC 3311	Receptionist Skills	3	0	0	3
SEC 3320	Personal Projection	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
					15
EDP 3310	Microcomputer Operations	2	2	0	3
SEC 3302	Effective Word Techniques	3	0	0	3
* SEC 3104	Electronic Calculators	0	2	0	1
* SEC 3405	Document Formatting I	3	2	0	4
SEC 4324	Information Processing Concepts	3	0	0	3
					14

General Office Intermediate Certificate (T033-B)

Completion of all Basic Certificate requirements in addition to the following:

ENG 3315	Essentials of Grammar	5	0	0	5
* SEC 3406	Document Formatting II	3	2	0	4
SEC 4370	Records Management	3	0	0	3
SEC 4429	Word Processing I	3	2	0	4
					16
ACC 3600	General Accounting	5	2	0	6
* ENG 1504	English Composition I	5	0	0	5
* SEC 4407	Document Production	3	2	0	4
* SEC 4425	Machine Transcription	3	2	0	4
					19

Total Credit Hours.....64

* Prerequisite or corequisite required; check course description.

Graphic Arts (V022)

Official Program Description registered with the N.C. Department of Community Colleges:

This curriculum gives students experience with equipment and a working knowledge of methods used in the graphic arts industry. Ample opportunities are provided for them to develop skills in the operation of machines and equipment, and to become familiar with a wide range of graphic processes.

There are many distinct occupations in the graphic arts industry. Graduates will be able to set type by various methods, prepare copy and artwork, proofread, operate presses, understand the photomechanical process, operate bindery equipment, and perform a variety of other graphic arts skills.

Diploma Awarded

A Diploma in Graphic Arts is awarded by the College upon completion of this program.

For More Information

The Graphic Arts program is in the Technical Careers Department. For more information, call the Program Director – 70-4/342-6794 or 6655, or the Department office 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
[1] ENG 5500	Communication Skills	5	0	5
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5401	Copy Preparation Technology I	2	4	4
[2] Technical Elective		0	0	2
				17
SECOND QUARTER				
HSA 5200	Human Relations	2	0	2
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
PRN 5424	Offset Press Operation I	2	4	4
				19
THIRD QUARTER				
* PRN 5315	Process Camera II	2	2	3
* PRN 5425	Offset Press Operation II	2	4	4
* PRN 5435	Image Assembly II	2	4	4
* PRN 5700	Printing Applications I OR	2	15	7
* PRN 5371	Printing Applications I - Part A	(2	3	3)
* PRN 5272	Printing Applications I - Part B	(0	6	2)
* PRN 5273	Printing Applications I - Part C	(0	6	2)
				18
FOURTH QUARTER				
PRN 5301	Printing Management	3	0	3
* PRN 5303	Printing Estimating	3	0	3
* PRN 5319	Desk Top Publishing II	2	2	3
* PRN 5409	Color Reproduction	3	2	4
* PRN 4401	Graphic Communications	2	4	4
[2] Technical Elective		0	0	2
				19

Total Credit Hours.....73

* Prerequisite or corequisite required; check course description.

[1] Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504 English Composition I.

[2] TECHNICAL ELECTIVES

PRN 4204	Graphic Arts Cooperative Work Experience II	0	20	2
PRN 5207	Graphic Arts Cooperative Work Experience I	0	20	2
PRN 5313	Desk Top Publishing III	2	2	3
PRN 5316	Screen Printing I	2	2	3
* PRN 5320	Desk Top Publishing IV	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation Technology II	2	4	4

Graphic Arts Certificates (V022–A. B. C. D. E. F)

Specialization Certificates

The certificates listed below can be earned in the Graphic Arts (V022) program.

For More Information

For more information, call the Program Director – 704/342-6794 or 6655, or the Technical Careers Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors may be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Graphic Arts – Printing Certificate with a Specialization in Image Assembly (V022-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
[1] ENG 5500	Communication Skills	5	0	5
PRN 5365	Image Assembly I	2	2	3
PRN 5314	Process Camera I	2	2	3
PRN 5435	Image Assembly II	2	4	4
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5409	Color Reproduction	3	2	4

Total Credit Hours.....29

Graphic Arts – Printing Certificate with a Specialization in Copy Preparation Technology (V022-B)

PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
[1] ENG 5500	Communication Skills	5	0	5
PRN 5401	Copy Preparation Technology I	2	4	4
PRN 5314	Process Camera I	2	2	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5403	Copy Preparation Technology II	2	4	4
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5319	Desk Top Publishing II	2	2	3

Total Credit Hours 32

Graphic Arts – Printing Certificate with a Specialization in Small Commercial Printing (V022-C)

PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
[1] ENG 5500	Communication Skills	5	0	5
PRN 5401	Copy Preparation Technology I	2	4	4
PRN 5365	Image Assembly I	2	2	3
PRN 5314	Process Camera I	2	2	3
PRN 5424	Offset Press Operation I	2	4	4
PRN 5317	Desk Top Publishing I	2	2	3

Total Credit Hours 29

Graphic Arts – Printing Certificate with a Specialization in Offset Press Operation (V022-D)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
¹ ENG 5500	Communications Skills	5	0	5
PRN 5365	Image Assembly I	2	2	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5424	Offset Press Operation I	2	2	4
PRN 5425	Offset Press Operation II	2	4	4

Total Credit Hours.....26

Graphic Arts – Printing Certificate with a Specialization in Desk Top Publishing (V022-E)

PRN 5369	Introduction to Graphic Communications	2	2	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
¹ ENG 5500	Communications Skills	5	0	5
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5401	Copy Preparation Technology I	2	4	4
ENG 3405	Technical English II	4	0	4
PRN 5319	Desk Top Publishing II	2	2	3

Total Credit Hours 26

Graphic Arts – Printing Certificate with a Specialization in Commercial Screen Printing (V022-F)

PRN 5316	Screen Printing I	2	2	3
PRN 5369	Introduction to Graphic Communications	2	2	3
PRN 5402	Mathematics for Graphic Communications	4	0	4
¹ ENG 5500	Communications Skills	5	0	5
PRN 5314	Process Camera I	2	2	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5401	Copy Preparation Technology I	2	4	4

Total Credit Hours.....28

¹ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504 English Composition I.

Graphic Arts – Printing Management (T026)

Official Program Description registered with the N.C. Department of Community Colleges:

The Graphic Arts – Printing Management curriculum prepares students for employment as trainees or assistants to management personnel in printing and related occupations in the graphic arts. This program is designed to provide a broad background of knowledge and a variety of graphic skills leading toward a management position after several years of on-the-job experience in this industry.

Instruction will include classroom theory and hands-on experience with composing equipment, graphic camera work, layout and copy preparation, bindery operations, production presswork and customer service experience.

Degree Awarded

The Associate in Applied Science Degree – Graphic Arts – Printing Management is awarded by the College upon completion of this program.

For More Information

The Graphic Arts – Printing Management program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6794 or 6655, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
* ENG 1504	English Composition I	5	0	5
PRN 5369	Introduction to Graphic Communications	3	0	3
PRN 5401	Copy Preparation Technology I	2	4	4
PRN 5402	Mathematics for Graphic Communications	4	0	4
PRN 5317	Desk Top Publishing I	2	2	3
				19
SECOND QUARTER				
* ENG 3405	Technical English II	4	0	4
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5424	Offset Press Operation I	2	4	4
Elective				3
				20
THIRD QUARTER				
* PRN 5315	Process Camera II	2	2	3
* PRN 5425	Offset Press Operation II	2	4	4
* PRN 5435	Image Assembly II	2	4	4
SPH 1300	Oral Communications	3	0	3
PHY 5304	Applied Physics	2	2	3
				14
FOURTH QUARTER				
PRN 5301	Printing Management	3	0	3
* PRN 5303	Printing Estimating	3	0	3
* PRN 5409	Color Reproduction	3	2	4
PRN 4311	Printing Sales	3	0	3
General Education Electives: Humanities OR Fine Arts				3
Natural Science				3
				19
FIFTH QUARTER				
BUS 2304	Business Law I	3	0	3
* PRN 4337	Color Separation Techniques and Theory	2	2	3
* PRN 5319	Desk Top Publishing II	2	2	3
* PRN 5700	Printing Applications I OR	2	15	7
* PRN 5371	Printing Applications I - Part A	(2	3	3)
* PRN 5272	Printing Applications I - Part B	(0	6	2)
* PRN 5273	Printing Applications I - Part C	(0	6	2)
¹ Technical Elective				2
				18

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SIXTH QUARTER				
MGT3303	Small Business Management	3	0	3
MGT4330	Supervision	3	0	3
* PRN 4401	Graphic Communications	2	4	4
PRN 5316	Screen Printing I	2	2	3
[1] Technical Elective		4	0	4
General Education Elective:				3
	Social or Behavioral Science			20

Total Credit Hours 110

* Prerequisite or corequisite required; check course description.

[1] TECHNICAL ELECTIVES

* PRN 4204	Graphic Arts Cooperative Work Experience II	0	20	2
PRN 5207	Graphic Arts Cooperative Work Experience I	0	20	2
PRN 5313	Desk Top Publishing III	2	2	3
PRN 5320	Desk Top Publishing IV	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation Technology II	2	4	4

Horticulture (V021)

Official Program Description registered with the N.C. Department of Community Colleges:

Students in the Horticulture curriculum are trained in the areas of vegetable, flower, fruit, and ornamental plant production. Subject matter includes soil fertility and its modification, chemicals and their use, varieties of plants, bookkeeping, marketing, plant propagation, greenhouses and their construction, greenhouse management and all phases of the production of vegetables, flowers and fruit, including bedding plants, potting plants and nursery stock.

Upon completion of this curriculum, students should be able to set up and operate their own specialized business, as well as manage and operate specialized vegetable, flower, fruit, or nursery enterprises for others.

This program emphasizes practical "hands-on" training.

Diploma Awarded

A Diploma in Horticulture is awarded by the College upon completion of this program.

Credit hours earned in the Diploma program can be applied to the Horticulture Technology Degree program.

For More Information

The Horticulture program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – 704/342-6926, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached by calling - 704/342-6881.

Admissions

- A High School Diploma or equivalent is required.
- Placement testing in English, mathematics, and reading will determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS WK	HRS LAB WK	HRS COOP WK	HRS CR QTR
FIRST QUARTER					
BIO 1501	General Botany	3	4	0	5
HOR 3408	Introductory Horticulture	3	2	0	4
HOR 3400	Landscape Plants I: Woody	3	2	0	4
HOR 3404	Landscape Plants II: Woody and Herbaceous	3	2	0	4
PME 5211	Small Engine Repair	1	3	0	2
					19
SECOND QUARTER					
ENG 1504	Intro. to English	5	0	0	5
HED 1204	First Aid I	1	2	0	2
HOR 3504	Grounds Maintenance I	3	4	0	5
HOR 3302	Landscape Graphics and Measurements	2	2	0	3
[1] Related Elective		4	0	0	4
					19
THIRD QUARTER					
HOR 3403	Nursery Technology	2	4	0	4
* HOR 3505	Landscape Gardening	3	4	0	5
HOR 3410	Turf Management	2	4	0	4
HOR 3405	Grounds Maintenance II	2	4	0	4
					17
FOURTH QUARTER					
* HOR 3205	Cooperative Work Experience	0	0	20	2
SPH 1300	Oral Communications	3	0	0	3
FIN 3314	Business Math I	3	0	0	3
HOR 3401	Plant Propagation I	2	4	0	4
[2] Technical Electives					4
					16

Total Hours Credit 71

* Prerequisite or corequisite required; check course description.

Note: All electives must be approved by Program Director or Program Counselor.

[1] SUGGESTED RELATED ELECTIVES

ACC 3500 Small Business Accounting
BIO 1500 Biological Science
BIO 2300 Genetics
BIO 2500 Introduction to Entomology
BIO 2504 Selected Topics in Biology
BUS 1500 Introduction to Business
CHM 1500 Introduction to Chemistry
EDP 3310 Microcomputer Operations
PME 5214 Small Engine Overhaul

[2] SUGGESTED TECHNICAL ELECTIVES

HOR 3210 Floral Design
HOR 3304 Computer-Aided Landscape Graphics
HOR 3312 Indoor Plants
HOR 3460 Organic Methods in Horticulture
* HOR 4203 Advanced Floral Design
HOR 4301 Horticulture Management and Sales
HOR 4400 Arboriculture
* HOR 4404 Plant Propagation II
HOR 4411 Greenhouse Horticulture

Horticulture Technology (T009)

Official Program Description registered with the N.C. Department of Community Colleges:

The Horticulture Technology curriculum encompasses the study and practical application of varied subjects in the field of horticulture. The curriculum consists of identifying and selecting plant materials, propagating, planting and growing plants; designing basic landscapes and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse and garden center. In addition, skills are developed in designing and building planters, walks, patios. fences and other landscape features. The curriculum is designed to provide students with the knowledge, skills and attitudes that are necessary for independent, creative thinking essential to success in this field.

Various types of employers hire the graduates of this curriculum. Examples are nurseries, greenhouse operations, garden centers, landscape contractors, landscape maintenance companies, and municipal/governmental agencies.

Major jobs for which students are prepared include entry-level jobs such as garden center worker, greenhouse worker, groundskeeper, landscape construction worker, landscape worker, lawn service worker, nursery worker, plant propagator, salesperson of horticultural and nursery products, and tree pruner; advanced-level jobs such as greenhouse superintendent, horticultural specialty grower – field, horticultural specialty grower – inside, landscape gardener, and nursery manager.

Degree Awarded

The Associate in Applied Science Degree – Horticulture Technology is awarded by the College upon completion of this program.

For More Information

The Horticulture Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – 704/342-6926, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached by calling 704/342-6881.

Admissions

- A High School Diploma or equivalent is required.
- Placement testing in English, mathematics, and reading determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS WK	HRS LAB WK	HRS CoOp WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1501	General Botany	3	4	0	5
HOR 3408	Introductory Horticulture	3	2	0	4
HOR 3400	Landscape Plants I: Woody	3	2	0	4
HOR 3404	Landscape Plants II: Woody and Herbaceous	3	2	0	4
					17
SECOND QUARTER					
* ENG 1504	English Composition I	5	0	0	5
FIN 3314	Business Mathematics I	3	0	0	3
PME 5211	Small Engine Repair I	1	3	0	2
HOR 3504	Grounds Maintenance I	3	4	0	5
HOR 3302	Landscape Graphics and Measurements	2	2	0	3
					18
THIRD QUARTER					
HED 1204	First Aid I	1	2	0	2
* HOR 3505	Landscape Gardening	3	4	0	5
HOR 3403	Nursery Technology	2	4	0	4
HOR 3410	Turf Management	2	4	0	4
HOR 3405	Grounds Maintenance II	2	4	0	4
					19
FOURTH QUARTER					
BIO 2500	Introduction to Entomology	3	4	0	5
HOR 3401	Plant Propagation I	2	4	0	4
HOR 3312	Indoor Plants	2	2	0	3
[1]	Behavioral/Social Science Elective	5	0	0	5
					17
FIFTH QUARTER					
* ENG 3405	Technical English II	4	0	0	4
CHM 1500	Introductory Chemistry I	3	4	0	5
HOR 4400	Arboriculture	2	4	0	4
[2]	Technical Elective	3	0	0	3
					16
SIXTH QUARTER					
ACC 3500	Small Business Accounting	5	0	0	5
[3]	Humanities-Fine Arts Elective	3	0	0	3
HOR 4411	Greenhouse Horticulture	2	4	0	4
HOR 4301	Horticulture Management and Sales	3	0	0	3
					15
SEVENTH QUARTER					
SPH 1300	Oral Communications	3	0	0	3
* HOR 4404	Plant Propagation II	2	4	0	4
* HOR 3205	Cooperative Work Experience (Co-Op)	0	0	20	2
[4]	Open Elective			3	3
					12

Total Hours Credit 114

* Prerequisite or corequisite required; check course description.

[1] SOCIAL/BEHAVIORAL SCIENCE ELECTIVE – To be approved by the Faculty Advisor.

[2] SUGGESTED TECHNICAL ELECTIVES:

HOR 3210	Floral Design	1	2	0	2
HOR 3304	Computer-Aided Landscape Graphics	2	3	0	3
HOR 3460	Organic Methods in Horticulture	2	4	0	4
* HOR 4203	Advanced Floral Design	1	2	0	2
MGT3303	Small Business Management	3	0	0	3
MGT4330	Supervision	3	0	0	3

[3] ARTS-HUMANITIES ELECTIVE – To be approved by the Faculty Advisor.

[4] OPEN ELECTIVE – May be any technical or college transfer course.

Hospital Ward Secretary (V066)

Official Program Description registered with the N.C. Department of Community Colleges:

The Hospital Ward Secretary (Clerk) curriculum is designed to prepare an individual to perform a variety of clerical duties such as maintaining patients' charts, requesting equipment and

services for patients, requesting supplies and equipment for the nursing unit, and completing forms correctly.

Employment opportunities are available in doctors' offices, clinics, hospitals, and other health agencies as hospital ward clerks or hospital ward secretaries.

Certificate Awarded

A Certificate is awarded by the College upon completion of this program.

Note

A grade of C or better is required for HRC-, MED-, and MRT-prefix courses in the curriculum. Students who complete one or more of these courses with a grade of less than C must repeat the course(s) in order to qualify for the certificate. A grade of C or better in HRC 5300 is required for progression to HRC 5401.

For More Information

The Hospital Ward Secretary program is in the Allied Health Department. For more information, call the Program Director – 704/342-6452, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- Placement testing in English and reading is required. Students must test at the level required to qualify for ENG 1504. Completion of any English, and/or reading indicated by testing is required prior to the awarding of the Hospital Ward Secretary certificate. Students may take Advancement Studies courses while taking program courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS WK	HRS LAB WK	HRS CoOp WK	HRS CR/ QTR
FIRST QUARTER					
MED3304	Medical Terminology I	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
HRC 5300	Orientation to Health Record Clerk	2	2	0	3
MRT 3300	Medical Record Content and Maintenance	2	2	0	3
					13
SECOND QUARTER					
* HRC 5401	Unit Clerk Procedures	2	4	0	4
* HRC 5301	Receptionist Skills	2	2	0	3
HRC 5302	Professional Interactions and the Health Worker	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
					13

* Prerequisite or corequisite required; check program description.

Hotel/Restaurant Management (T025)

Official Program Description registered with the N.C. Department of Community Colleges:

The Hotel and Restaurant Management curriculum prepares students to work as supervisory and management personnel in hotels, restaurants and clubs. Areas of study include front office management, accounting, sales promotion, food and beverage control, personnel management, food preparation and service. An internship program in the field may be offered the student to acquire industry experience under the direction of a qualified manager and a college supervisor.

The graduate has an opportunity for employment with hotels, clubs, restaurants, airlines, colleges, schools, convalescent homes, government services and hospitals.

Degree Awarded

The Associate in Applied Science Degree – Hotel/Restaurant Management is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, the estimated cost of tools and uniforms if $125.00.

For More Information

The Hotel/Restaurant Management program is in the Hospitality Technology Department. For more information, call the Program Director – 704/342-6721, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS WK	HRS LAB WK	HRS CoOp WK	HRS CR/ QTR
FIRST QUARTER					
HRM 3300	Introduction to Hotel/ Restaurant Management	3	0	0	3
* ENG 1504	English Composition I	5	0	0	5
HRM 3104	Speaker Seminar I	1	0	0	1
BUS 2304	Business Law I	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
					15
SECOND QUARTER					
FIP 3200	Fire Protection for Hospitality Education	2	0	0	2
HRM 4301	Housekeeping Procedures	3	0	0	3
* ENG 3405	Technical English II	4	0	0	4
FSO 4300	Sanitation	3	0	0	3
HED 1204	Standard First Aid	1	2	0	2
TAT 3200	Travel and Tourism Etiquette	2	0	0	2
					16
THIRD QUARTER					
HRM 4300	Hotel/Restaurant Marketing	3	0	0	3
FSO 3504	Food Preparation I	2	0	9	5
SPH 2304	Public Speaking	3	0	0	3
TAT 4307	History of Beverages	3	0	0	3
FIN 3314	Business Mathematics	3	0	0	3
					17
FOURTH QUARTER					
FSO 4407	Baking I	2	0	6	4
ECO 3300	Introduction to Economics	3	0	0	3
EDP 1500	Computer Literacy	5	0	0	5
MGT 4332	Human Resources Management I	3	0	0	3
HRM 3301	Legal Aspects of Hospitality	3	0	0	3
					18
FIFTH QUARTER					
* HRM 4400	Restaurant Service Management	2	0	6	4
FSO 4200	Equipment Usage Layout and Design	2	0	0	2
BUS 3300	Human Relations	3	0	0	3
ACC 1604	Principles of Accounting I	5	2	0	6
Elective		3	0	0	3
					18
SIXTH QUARTER					
MGT 4300	Supervision	3	0	0	3
FSO 4304	Food and Labor Cost Controls	3	0	0	3
* ACC 3434	Hotel/Restaurant Accounting	3	2	0	4
	General Education Elective	5	2	0	6
					16

		HRS CLS WK	HRS LAB WK	HRS CoOp WK	HRS CR/ QTR
SEVENTH QUARTER					
HRM 4200	Topics in Hotel/Restaurant Management	2	0	0	2
FSO 4414	Garde Manger I	2	0	6	4
FSO 3301	Nutrition	3	0	0	3
FSO 4208	Cooperative Education	0	0	20	2
* HRM 4302	Hotel/Restaurant Management Related Problems	3	0	0	3
					14

Total Credit Hours 114

* Prerequisite or corequisite required; check course description.

[1] GENERAL EDUCATION ELECTIVE – FRE, GER, or SPA.

Industrial Management Technology (T049)

Official Program Description registered with the N. C. Department of Community Colleges:

The Industrial Management Technology curriculum is designed to provide an individual with the ability to function effectively in supervisory and middle-management positions in industry. The program emphasizes study and application in areas such as business and industrial management, production methods and schedules, inventory control, work analysis, motivation techniques, and human relations.

This curriculum is designed to prepare the individual to enter supervisory or middle-management positions, to provide an educational program for upgrading or retraining, and to provide an opportunity for the individual wanting to fulfill professional or general interest needs.

Degree Awarded

The Associate in Applied Science Degree – Industrial Management is awarded by the College upon completion of this program.

For More Information

The Industrial Management Technology program is in the Business Administration Department. For more information, call the Program Director – 704/342-6238 or 6646, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC WK	HRS CR/ QTR
FIRST QUARTER					
* ENG 1504	English Composition I	5	0	0	5
BUS 1500	Introduction to Business	5	0	0	5
BUS 3300	Human Relations	3	0	0	3
BUS 2304	Business Law I	3	0	0	3
					16
SECOND QUARTER					
* ENG 3405	Technical English II OR				
* ENG 1505	English Composition II	4	0	0	4
SSH 3501	Intro to Principles of Safety	4	2	0	5
* MAT1504	College Algebra OR				
MAT3504	Technical Math	5	0	0	5
* BUS 2305	Business Law II	3	0	0	3
					17
THIRD QUARTER					
* EDP 2525	Intro to Business Computing	4	2	0	5
MGT2314	Principles of Management	3	0	0	3
ACC 1604	Principles of Accounting I	5	2	0	6
* BUS 3304	Business Statistics I	3	0	0	3
					17
FOURTH QUARTER					
MAT3516	Intro.Statistical Process Control	5	0	0	5
* ACC 1605	Principles of Accounting II	5	2	0	6
MGT4333	Intro. to Industrial Management OR				
MGT4356	Intro. to Materials Management	3	0	0	3
SPH 1300	Oral Communications or				
SPH 1301	Persuasive Speaking	3	0	0	3
					17
FIFTH QUARTER					
MGT4330	Supervision	3	0	0	3
ECO 2304	Economics I	3	0	0	3
FIN 4334	Business Finance I	3	0	0	3
Humanities Electives		3	0	0	3
Electives		3	0	0	3
					15
SIXTH QUARTER					
MGT4322	Introduction to Purchasing	3	0	0	3
ECO 2305	Economics II	3	0	0	3
[1] Technical Electives		6	0	0	6
Electives		3	0	0	3
					15
SEVENTH QUARTER					
* MGT4335	Production Planning/Control	3	0	0	3
MGT4339	Inventory Management	3	0	0	3
DFT 4300	Blueprint Reading	4	2	0	5
[1] Technical Electives		6	0	0	6
					15

Total Credit Hours 112

* Prerequisite or corequisite; check course description.

[1] TECHNICAL ELECTIVES: It is recommended that students wishing to concentrate in **Materials Management** select 12 credit hours from the following:

MKT1304	Marketing I	3	0	0	3
MGT4323	Advanced Purchasing Management	3	0	0	3
* MGT4334	Management Seminar	3	0	0	3
TRN 3300	Introduction to Transportation	3	0	0	3
TRN 4356	Physical Distribution Management	3	0	0	3
TRN 4358	Warehousing	3	0	0	3
MGT4338	Labor Management Relations	3	0	0	3
BUS 2306	Business Law III	3	0	0	3

			HRS CLS /WK	HRS LAB /WK	HRS CLC WK	HRS CR/ QTR
BUS	4201	Bus. Admin. CoOp Ed. I	0	0	20	2
BUS	4202	Bus. Admin. CoOp E. II	0	0	20	2

It is recommended that students wishing to concentrate in **Engineering Management** select 12 credit hours from the following courses:

* ISC	4305	Plant Layout/Material Handling	2	3	0	3
* ISC	4307	Introduction to Robotics	3	3	0	4
* ISC	4314	Inspection and Quality Control	2	3	0	4
ISC	4400	Time and Motion Study	2	6	0	4
* ISC	4416	Process Planning	2	6	0	4

Insurance (T128)

Official Program Description registered with the N.C. Department of Community Colleges:

The Insurance curriculum is designed to prepare an individual for entry into the insurance field. Objectives of this curriculum are to provide the individual with knowledge and skills in the principles of life and health insurance, social insurance, property and liability insurance, governmental influences on the insurance industry, governmental influences of the insurance industry on the economy, and organization and management in business operations.

Employment opportunities are available in areas such as insurance sales agent, claims adjuster, special agent, claims examiner, and rate clerk.

Degree Awarded

The Associate in Applied Science Degree – Insurance is awarded by the College upon completion of this degree.

Note

Students desiring a Diploma in Insurance shall select 65 hours from the courses below in consultation with their advisor. At least 6 hours must be from General Education courses.

Students desiring a Certificate in Insurance shall select 18 hours from the courses below in consultation with their advisor.

For More Information

The Insurance program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-6420, or the Department office – 704/342-6026, weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

• A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

MAJOR COURSES

			HRS CLS /WK	HRS LAB /WK	HRS CLC WK	HRS CR/ QTR
INS	3340	Principles of Risk andInsurance	1	4	0	3
INS	3341	Personal Property and Casualty Insurance	2	2	0	3
INS	4201	Part I – Life and Health Insurance	2	0	0	2
* INS	4202	Part 2 – Life and Health Company Operations	2	0	0	2
INS	4203	Part 3 – Legal Aspects of Life and Health Insurance	2	0	0	2
INS	4280	NASD Series 6 and 63 Review	2	0	0	2
INS	4294	General Insurance Part I Introduction	2	0	0	2
* INS	4395	General Insurance Part II Life and Accident and Health	3	0	0	3
* INS	4396	General Insurance Part III Fire and Casualty	3	0	0	3
* INS	4297	General Insurance Part IV Adjusting	2	0	0	2
* INS	4298	General Insurance Part V – Medicare Supplement/Long Term Care	2	0	0	2
INS	4315	Personal Risk Mgmt. and Insurance (HS 315)	3	0	0	3
INS	4320	Fundamentals of Financial Planning (HS 320)	3	0	0	3
INS	4321	Income Taxation (HS 321)	3	0	0	3
INS	4323	Individual Life and Health Insurance (HS 323)	3	0	0	3
* INS	4354	Professional Ethics	2	2	0	3
INS	4365	Contemporary Legal Environment of Employee Benefit Plans (CEBS)	3	0	0	3
[1] Technical Electives			15	0	0	15
			55	8	0	59

RELATED COURSES

ACC	3500	Small Business Accounting	5	0	0	5
BUS	2304	Business Law I	3	0	0	3
EDP	3310	Microcomputer Operations	2	2	0	3
ECO	3300	Introduction to Economics	3	0	0	3
EDP	3324	Advanced Microcomputer Operations	1	4	0	3
FIN	3314	Business Mathematics I	3	0	0	3
SEC	3301	Legal Terminology and Vocabulary	3	0	0	3
SEC	3303	Keyboarding	1	4	0	3
SEC	4305	Business Communications	3	0	0	3
[2] Related Electives			9	0	0	9
			34	8	0	38

GENERAL EDUCATION

* ENG	1504	English Composition I	5	0	0	5
* ENG	3405	Technical English II	4	0	0	4
SPH	1300	Oral Communications	3	0	0	3
[3] Humanities or Fine Arts Elective			3	0	0	3
[4] Natural Science Or Mathematics Elective			3	0	0	3
			18	0	0	18
Free Elective						3

Total Credit Hours 118

* Prerequisite or corequisite required; check course description.

[1] TECHNICAL ELECTIVES: In consultation with their Faculty Advisor, students may choose 15 credit hours from the following list:

INS	4200	NASD Series 22 Review	2	0	0	2
* INS	4208	Part 8 – Life Insurance Investments	2	0	0	2
INS	4210	Part 10G1 – Group Insurance	2	0	0	2
* INS	4211	Part 10CL – Life and Health Insurance Claims	2	0	0	2
INS	4317	Multiline Insurance Law and Operations	3	0	0	3

			HRS CLS /WK	HRS LAB WK	HRS CoOp /WK	HRS CR/ QTR
INS	4322	Financial System in the Economy (HS 322)	3	0	0	3
INS	4324	Life Insurance Law (HS 324)	3	0	0	3
INS	4325	Group Benefits (HS 325)	3	0	0	3
INS	4326	Planning for Retirement Needs (HS 326)	3	0	0	3
INS	4328	Investments (HS 328)	3	0	0	3
INS	4329	Wealth Accumulation Plannings (HS 29)	3	0	0	3
INS	4330	Fundamentals of Estate Planning I (HS 330)	3	0	0	3
INS	4331	Planning for Business Owners and Professionals (HS 331)	3	0	0	3
INS	4332	Financial Planning Applications (HS 332)	3	0	0	3
INS	4334	Fundamentals of Estate Planning II (HS 334)	3	0	0	3
INS	4336	Financial Decision Making at Retirement (HS 336)	3	0	0	3
INS	4337	Business Taxation and Planning (HS 337)	3	0	0	3
INS	4340	Employee Benefit Concepts and Medical Care Benefits (CEBS)	3	0	0	3
INS	4341	Design and Administration of Life, Disability Income and Other Welfare Benefit Plans (CEBS)	3	0	0	3
INS	4342	Retirement Plans: Basic Features and Defined Contribution Approaches (CEBS)	3	0	0	3
INS	4343	Retirement Plans: Defined Benefit Approaches and Plan Administration (CEBS)	3	0	0	3
INS	4344	Contemporary Legal Environment of Employee Benefit Plans (CEBS)	3	0	0	3
INS	4345	Accounting and Finance (CEBS)	3	0	0	3
INS	4346	Asset Management (CEBS)	3	0	0	3
INS	4347	Human Resources and Compensation Administration (CEBS)	3	0	0	3
INS	4348	Employee Benefit Plans and the Economy (CEBS)	3	0	0	3
INS	4349	Contemporary Benefit Issues and Administration (CEBS)	3	0	0	3
INS	4400	Disability Income Training Course (LUTC)	4	0	0	4
INS	4401	NASD Series 7 Review	4	0	0	4
INS	4404	Fundamentals of Financial Services (LUTC)	4	0	0	4
INS	4405	Professional growth (LUTC)	4	0	0	4
INS	4406	Multiline Skills (LUTC)	4	0	0	4
INS	4700	Advanced Sales Training Course (LUTC)	7	0	0	7
INS	4701	Personal Insurance Course (LUTC)	7	0	0	7
INS	4702	Business Insurance Training Course (LUTC)	7	0	0	7

[2] RELATED ELECTIVES: In consultation with their Faculty advisor, students select 9 hours from the following list of related course electives:

			HRS CLS /WK	HRS LAB WK	HRS CoOp /WK	HRS CR/ QTR
	ACC 1604	Principles of Accounting I	5	2	0	6
*	ACC 1605	Principles of Accounting II	5	2	0	6
*	ACC 4414	Microcomputer Accounting General Ledger	2	4	0	4
	ACC 4434	Taxes-Individual	3	2	0	4
	ARC 3212	Homes Construction Cost Estimating	1	2	0	2
	AUB 5203	Estimating Auto Body Damage	2	0	0	2
*	BUS 2305	Business Law II	3	0	0	3
	EDP 1500	Computer Literacy	5	0	0	5
	ENG 5500	Communication Skills	5	0	0	5
	FIN 4317	Financial Statement Analysis	3	0	0	3
	FIP 3406	Arson Investigation I	3	2	0	4
	FIP 3408	Arson Investigation II	3	2	0	4
*	INS 4284	Cooperative Education I	0	0	20	2
*	INS 4285	Cooperative Education II	0	0	20	2
	LEX 3300	Case Analysis and Legal Reasoning	3	0	0	3
	LEX 3320	Evidence	3	0	0	3
	LEX 4321	Tort Law	3	0	0	3
*	LEX 4332	Trial Preparation and Procedure	3	0	0	3
	LEX 4341	Worker's Compensaiion Law	3	0	0	3
	LEX 4361	Interpreting Medical Reports	3	0	0	3
	MKT 3320	Fundamentals of Selling	3	0	0	3
*	MKT 4305	Advanced Selling Skills	3	0	0	3
	MKT 4325	Sales Management	3	0	0	3
	MGT 2314	Principles of Management	3	0	0	3
	MGT 3303	Small Business Management	3	0	0	3
	SEC 3311	Receptionist Skills	3	0	0	3
*	SEC 3405	Document Formatting I	3	2	0	4
*	SEC 3406	Document Formatting II	3	2	0	4
*	SEC 3414	Shorthand I	3	2	0	4
*	SEC 4324	Information Processing Concepts	3	0	0	3
	PSC 4517	Principles of Interviewing and Interrogation	5	0	0	5

[3] HUMANITIES OR FINE ARTS ELECTIVES must be selected from the following prefixes in consultation with adviser: ART, DRA, HUM, MUS, PHI, SPH.

[4] NATURAL SCIENCE OR MATHEMATICS ELECTIVES must be selected from the following prefixes in consultation with adviser: BIO, CHM, GEL, MAT, PHY.

Interior Design (T077)

Official Program Description registered with the N.C. Department of Community Colleges:

The Interior Design curriculum prepares students for a variety of job opportunities in the fields of both residential and non-residential design. The course of study includes principles and elements of design, drafting, visual communication techniques, the history of styles, currently manufactured products, color theory, furniture design and construction, floor coverings, fabrics, window treatments, wall coverings, paint, accessories, and lighting. Student have the opportunity to cover the elements of interior design and to demonstrate their abilities in interior

coordination. Graduates of this program may qualify for various positions with the following types of employers: interior design studios, furniture manufacturers, architects, furniture design studios, photography studies, and any type of business dealing with interior furnishings. Increasingly, our interior living and working spaces are being developed for a more sophisticated society. The Interior Design program at CPCC prepares students to design the interior spaces of today and tomorrow using the best of today's technology.

Degree Awarded

The Associate in Applied Science Degree – Interior Design is awarded by the College upon completion of this program.

For More Information

The Interior Design program is in the Engineering and Advanced Technology Department. for more information, contact a Program Counselor – 704/342-6862, 6443, or 5922, or the Program Director – 704/342-6437, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in mathematics and English determine entry level courses that match individual needs. Advancement studies (9000-series) math and English courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
ART 1300	Introduction to Art I	3	0	3
ART 1404	General Drawing I	2	4	4
ART 1424	Design I	2	4	4
EDN 4205	Orientation	2	0	2
* ENG 1504	English Composition I	5	0	5
FIN 3314	Business Mathematics I	3	0	3
				21
SECOND QUARTER				
ARC 3334	Architectural Drafting I (Basic)	1	6	3
* ART 1310	History of Art I	3	0	3
EDN 3304	MacIntosch Applications in Interior Design	2	2	3
EDN 4310	Design Sketching I	0	6	3
* ART 1425	Design II	2	4	4
! Elective		3	0	3
				19
THIRD QUARTER				
* ARC 3303	Interior Design Drafting I	1	6	3
* ART 1426	Design III	2	4	4
* EDN 4300	Survey of Interior Design	3	0	3
* EDN 4311	Design Sketching II	0	6	3
MKT 3320	Fundamentals of Selling	3	0	3
PSY 2504	General Psychology	5	0	5
				21
FOURTH QUARTER				
* ARC 3304	Interior Design Drafting II	1	6	3
ART 1311	History of Art II	3	0	3
EDN 4316	Period Furniture and Furnishing I	3	0	3
EDN 4320	Introduction to Textiles	3	0	3
* EDN 4404	Interior Presentations	2	4	4
EDN 4414	Applied Problems Studio I	2	4	4
				20
FIFTH QUARTER				
* ARC 3314	Architectural Computer Drafting (CAD) AutoCAD I	1	6	3
ART 1312	History of Art III	3	0	3
* EDN 4307	Survey of Materials	1	4	3
* EDN 4317	Period Furniture and Furnishing II	3	0	3
* EDN 4415	Applied Problems Studio II	2	4	4
SPH 1300	Oral Communications	3	0	3
				19
SIXTH QUARTER				
* EDN 4202	Thesis	0	4	2
* EDN 4400	Professional Practices and Procedures	2	4	4
* EDN 4406	Contract Interiors	2	4	4
* EDN 4416	Applied Problems Studio III	2	4	4
				14

Total Credit Hours 113

* Prerequisite or corequisite required; check course description.

! RECOMMENDED ELECTIVES:

ART 1314 Wood Working I
ART 1348 Watercolor I
ART 1364 Ceramics I
ART 1384 Basic Camera Techniques
ART 2322 Surface Design in Textiles
EDN 4206 Cooperative Work Experience
EDP 3310 Microcomputer Operations
HOR 3312 Indoor Plants

International Business (T207)

Official Program Description registered with the N.C. Department of Community Colleges:

This program is designed to prepare an individual for positions in international business. The curriculum includes a core of business, social science, and foreign language courses coupled with specialized courses in international finance, international marketing, and international business practices.

The student will be prepared for employment in international business based on demonstrated language skills; knowledge of geographic, political, and cultural differences; ability to process import-export documentation; knowledge of international economics and finance; and knowledge of the different forms and practices of business around the world.

Employment opportunities are available in import/export departments, freight forwarder companies, custom house brokerage firms, and international departments of banks.

Degree Awarded

The Associate in Applied Science Degree – International Business is awarded by the College upon completion of this program.

A Certificate in International Business is also available upon completion of 35 credit hours of specified required courses.

For More Information

The International Business program is in the Business Administration Department. For more information, call the Program Director – 704/342-6284, or the Department Head – 704/342-6646, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached by calling 704/342-6456.

Admissions

- A High School Diploma or equivalent is required.

• Placement tests in English, mathematics, and reading determine placement in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
FIRST QUARTER					
BUS 1500	Introduction to Business	5	0	0	5
* ENG 1504	English Composition I	5	0	0	5
INT 3300	Introduction to International Business	3	0	0	3
[1] Intermediate Foreign Language I		5	2	0	6
					19
SECOND QUARTER					
SPH 1300	Oral Communications	3	0	0	3
ENG 3405	Technical English OR				
* ENG 1505	English Composition II	4	0	0	4
INT 3306	International Business Practices	3	0	0	3
[1] Intermediate Foreign Language II		5	2	0	6
					16
THIRD QUARTER					
BUS 2304	Business Law I	3	0	0	3
MGT2314	Principles of Management	3	0	0	3
MAT1504	College Algebra II OR Approved Natural Science course	5	0	0	5
GYP 1500	Introduction to World Geography	5	0	0	5
[2] Technical Elective		3	0	0	3
					19
FOURTH QUARTER					
ACC 1604	Principles of Accounting I	5	2	0	6
BUS 2305	Business Law II	3	0	0	3
[3] INT 4225	Cooperative Work Experience I	0	2	2	2
ECO 2304	Economics I	3	0	0	3
TRN 4380	Export Transportation Management	3	0	0	3
					17
FIFTH QUARTER					
ACC 1605	Principles of Accounting II	5	2	0	6
[3] INT 4226	Cooperative Work Experience II	0	2	0	2
EDP 3310	Microcomputer Operations	2	2	0	3
INT 3305	International Marketing	3	0	0	3
ECO 2305	Economics II	3	0	0	3
					17
SIXTH QUARTER					
INT 3307	Economics of International Trade	3	0	0	3
INT 4307	International Business Law	3	0	0	3
POL 1511	International Relations	5	0	0	5
[2] Technical Elective		6	0	0	6
Elective		3	0	0	3
					20
SEVENTH QUARTER					
BAF 4303	International Banking	3	0	0	3
ACC 4308	International Accounting and Taxation	3	0	0	3
TRN 4375	Import Transportation Management	3	0	0	3
					9

Total Credit Hours 117

* Prerequisite or corequisite required; see course description.

[1] Student must consult with Program Director to choose a foreign language to satisfy this requirement.

[2] TECHNICAL ELECTIVES: Select 9 credit hours from the following:

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
BUS 3300	Human Relations	3	0	0	3
BUS 3304	Business Statistics	3	0	0	3
ECO 2306	Economics III	3	0	0	3
FIN 4334	Business Finance	3	0	0	3
LEX 4322	Corporate Law	3	0	0	3
MGT3303	Small Business	3	0	0	3
MGT4332	Personnel Management I	3	0	0	3
MGT4330	Supervision	3	0	0	3
MKT3320	Fundamentals of Selling	3	0	0	3
MKT4322	Purchasing	3	0	0	3

[3] INT 4225 (Cooperative Work Experience I) and INT 4226 (Cooperative Work Experience II) or INT 4425 Travel Study Abroad (Travel/Study plan developed and approved by Department Head or Program Director – maximum credit hours: 4).

Interpreter Training (T185)

Official Program Description registered with the N.C. Department of Community Colleges:

The Interpreter Training curriculum prepares individuals to work as interpreters for the deaf and provides instruction for presently-employed interpreters who wish to further develop their skills. Instruction includes the study of hearing and deafness, the use of American Sign Language and fingerspelling, and the process of interpreting and translating in various types of situations. Knowledge of theory is supplemented with the opportunity to practice interpreting to develop receptive ability and clarity and speed of translation.

Graduates of the program may find employment translating spoken language into sign language for understanding of the deaf or interpreting sign language of the deaf into oral or written language for hearing individuals. Job opportunities exist with educational, medical, legal and community agencies as teacher assistants, interpreter/tutors, or secretary/interpreters. Individuals may also choose to be self-employed as free-lance interpreters.

Degree Awarded

The Associate in Applied Science Degree – Interpreter Training is awarded by the College upon completion of this program.

Program Accreditation

Interpreter Training Associate and Human Services Associate courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit.

Note

Completion of 115 credit hours is required for the Degree: 65 credit hours of Major Course Requirements, 29 credit hours of Related Course Requirements, 18 credit hours of General Education Requirements, and 3 credit hours of Electives.

The 29 credit hours of Related Courses are not all designated. These courses are selected with the Program Director in consideration of the student's goals. This allows development of a second skill in the area in which the student would like to work, thus making the student more marketable.

A suggested sequence of required courses for full-time students is listed below.

For More Information

The Interpreter Training program is in the Human Services Department. For more information, call the Program Director – 704/342-6829, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required
- Completion of the CPCC Admissions Form is followed by placement tests and a meeting with the Program Director.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
FIRST QUARTER					
IPP 1501	Sign Language I	5	0	0	5
IPP 3501	Comparative Cultures: American Deaf and Mainstream	5	0	0	5
HSA 3501	Introduction to HSA	5	0	0	5
IPP 3301	Interpreting: An Overview	3	0	0	3
					18
SECOND QUARTER					
IPP 1502	Sign Language II	5	0	0	5
HSA 3502	Interpersonal Relationships	5	0	0	5
IPP 3302	Critical Thinking and Analytical Skills for Interpreters	I	4	0	3
* ENG 1504	English Composition I	5	0	0	5
					18
THIRD QUARTER					
* IPP 1503	Intercultural Communication and Translation	5	0	0	5
* HSA 3340	Client Group Dynamics	3	0	0	3
* HSA 3341	Interpersonal Relationships II	3	0	0	3
* IPP 3314	Introduction to Discourse Analysis	1	4	0	3
* ENG1505	English Composition II	5	0	0	4
					19
FOURTH QUARTER					
* IPP 3514	Introduction to Consecutive Interpretation	2	6	0	5
ANT 1502	General Anthropology	5	0	0	5
SPH 2304	Public Speaking	3	0	0	3
BIO 3301	Basic Health Science I	3	0	0	3
IPP 4100	ASL Numbers and Fingerspelling	0	2	0	1
					17
FIFTH QUARTER					
* IPP 3514	Consecutive Interpretation II	2	6	0	5
* MAT1504	College Algebra I	5	0	0	5
' Related Courses		5	0	0	5
					15
SIXTH QUARTER					
* IPP 3516	Introduction to Simultaneous Interpretation	2	6	0	5
' Related Courses		8	0	0	8
Technical Elective		3	0	0	3
					16
SEVENTH QUARTER					
* IPP 3517	Simultaneous Interpretation II	2	6	0	5
* IPP 4508	Interpreting Practicum	1	0	12	5
Elective		3	0	0	3
					13

Total Credit Hours 116

* Prerequisite or corequisite required; see course description.

' Related Course work is selected with the approval of the Program Director, depending on the area of interest that students wished to combine with interpreting skills. The Program Director will work with students individually to help them choose appropriate courses.

Law Enforcement Technology (T064)

Official Program Description registered with the N.C. Department of Community Colleges:

The Law Enforcement Technology curriculum prepares individuals for a career in the law enforcement services occupations field and other allied occupations. Law Enforcement occupations require a thorough understanding of criminal behavior, criminal investigation, interpersonal communication, law, patrol operations, psychology, sociology, traffic management, and other aspects of law enforcement administration and operations.

Job opportunities are available with federal, state, county, and municipal governments. In addition, knowledge, skills and abilities acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

Degree Awarded

The Associate in Applied Science Degree – Law Enforcement is awarded by the College upon completion of this program.

For More Information

The Law Enforcement Technology program is in the Accounting and Public Safety Department. For more information, call a faculty advisor – 704/342-6921, or the Program Director – 704/342-6032, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.
- Some courses require placement tests prior to registration.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAJOR COURSES				
' PSC 3303	Motor Vehicle Laws of North Carolina	3	0	3
PSC 3500	Introduction to Criminology	5	0	5
PSC 3501	Introduction to Law Enforcement	5	0	5
PSC 3504	Crime Scene Technology	4	2	5
' PSC 3510	Criminal Law	5	0	5
PSC 3514	Police Organization and Administration	5	0	5
PSC 4312	Organized Crime	3	0	3
PSC 4501	Constitutional Law	5	0	5
PSC 4503	Law Enforcement Psychology	5	0	5
* PSC 4504	Criminal Procedure and Rules of Evidence	5	0	5
PSC 4505	Criminal Investigation	5	0	5
* PSC 4506	Advanced Crime Scene Technology	4	2	5
' PSC 4510	Law Enforcement Operations	5	0	5
PSC 4520	Public Relations in Law Enforcement	5	0	5
				66

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
RELATED COURSES				
CSC 3504	Juvenile Justice System	5	0	5
EDP 3310	Microcomputer Operations	2	2	3
PSC 4516	Executive Protection and Terrorism	5	0	5
PSC 4517	Principles of Interviewing and Interrogation	5	0	5
[2] Related Electives		10	0	10
				28
GENERAL EDUCATION COURSES				
* ENG 1504	English Composition I	5	0	5
* ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
[3] Elective General Education (Computational)		3	0	3
[4] Elective General Education (Humanities OR Fine Arts)		3	0	3
[5] Elective General Education (Social OR Behavioral Science)		3	0	3
[6] Elective General Education (Natural Science OR Mathematics)		3	0	3
				24
Free Elective		3	0	3
Total Credit Hours				121

* Prerequisite or corequisite required; check course description.

[1] Substituted for successful completion of Basic Law Enforcement Training.

[2] RELATED ELECTIVES (10 hours must be taken from the following)

CSC 3505	Victimology	5	0	5
CSC 3507	Criminal Personality and Behavior	5	0	5
CSC 3508	Drugs, Society, and Crime	5	0	5
CSC 3509	Court Intake Procedures	5	0	5
CSC 3510	Women in the Criminal Justice System	5	0	5
FIN 4350	Personal Financial Management	3	0	3
[1] PSC 4310	Self Defense and Weaponry	1	4	3

[3] GENERAL EDUCATION ELECTIVES – COMPUTATIONAL (3 hours)

ACC 1604	Principles of Accounting	5	2	6
FIN 3303	Personal Investing	3	0	3
FIN 3314	Business Mathematics I	3	0	3
* MAT1504	College Algebra I	5	0	5
MAT3504	Technical Math I	5	0	5

[4] HUMANITIES OR FINE ARTS – ELECTIVES (3 hours)

HUM1300	The Ascent of Man	3	0	3
HUM1319	Mythology	3	0	3
HUM1500	Humanities – Classical to Medieval	5	0	5
SPH 2300	Voice and Diction	3	0	3
SPH 2304	Public Speaking	3	0	3
Language	FRE, RUS, or SPA	0	0	3

[5] SOCIAL OR BEHAVIORAL SCIENCES – ELECTIVES (3 hours)

HIS 2500	North Carolina History	5	0	5
ECO 2304	Economics I	3	0	3
PHI 1500	Introduction to Philosophy	5	0	5
PSY 1500	Psychology of Adjustment	5	0	5
PSY 2500	Educational Psychology	5	0	5
PSY 2504	General Psychology	5	0	5
SOC 1301	Group Interaction	3	0	3
SOC 2514	Introduction to Sociology	5	0	5
SOC 2515	Social Problems	5	0	5

[6] One 3-hour course from General Education Electives must be selected from the areas of Computational, Humanities or Fine Arts, Social or Behavioral Science, or Natural Science or Mathematics.

[6] NATURAL SCIENCE OR MATHEMATICS – ELECTIVES (3 hours)

BIO 1500	Biological Science	3	4	5
BIO 1501	General Botany	3	4	5
BIO 1502	General Zoology	3	4	5
BIO 2304	Human Nutrition	3	0	3
* CHM1500	Introductory Chemistry	4	2	5
GEL 1604	Physical Geology	5	2	6
* MAT1504	College Algebra I	5	0	5

Law Enforcement Training, Basic -- See Basic Law Enforcement Training (T189)

Machinist (V032)

Official Program Description registered with the N.C. Department of Community Colleges:

The Machinist curriculum gives individuals the opportunity to acquire basic skills and related technical information necessary to gain employment in the metalworking industries. The machinist is a skilled metalworker who shapes metal by using machine tools and hand tools. Machinists must be able to set up and operate the machine tools found in a modern shop. Computer numerical control (CNC) may be integrated into various phases of the curriculum or as specialized courses.

The machinist is able to select the proper tools and materials required for each job, and to plan the cutting and finishing operations in their proper order so that the work can be finished according to blueprints or written specifications. The machinist makes computations relating to dimensions of work, tooling, feeds and speeds of machining. Precision measuring instruments are used to measure the accuracy of work. The machinist also must know the characteristics of metals so that annealing and hardening of tools and metal parts can be accomplished in the process of turning a block of metal into an intricate precise part.

Diploma Awarded

A Diploma in Machinist is awarded by the College upon completion of this program.

Note

The Machinist program at CPCC places great emphasis on the operation, set-up, and programming of computer numerical control (CNC) machine tools, in both turning and machining center applications. Programming is performed both manually and with the latest in computer-aided manufacturing (CAM) techniques, using graphics programming (including Smart-CAM) in both 2-D and 3-D applications.

A basic knowledge in metal removal is provided by hands-on activities in the operation and set-up of conventional machine

tools such as turning, milling, and grinding applications. All shop/lab projects and activities in both CNC and conventional machining are performed on full-scale industrial equipment, commonly used in local industry.

Robotics, CNC machine tools, CNC graphics programming, and hands-on experience with computers keep the machining profession an ever-changing and challenging career.

Cooperative work experience is also available for curriculum credit. After completion of two quarters, CPCC's Co-Op office works with each student to help find an employer sponsor, which provides students the opportunity to earn while they are learning.

For More Information

The Machinist program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – 704/342-6608, or a Program Counselor – 704/342-6550 or 6059, weekdays, 8 a.m.-5 p.m.

Admissions

- Admission to the program requires placement tests in mathematics and English to determine entry-level courses that match individual needs. Advancement Studies (9000-series) math and English courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
MAC 5200	Precision Instrument Reading	2	0	2
MAC 5300	Fundamentals of Computer Numerical Control Programming	3	0	3
MAC 5203	Blueprint Reading for Machinists I	1	2	2
* MAC 5311	Basic Lathe Operations	1	6	3
MAC 5401	Basic Calculations for Machinists I	4	0	4
* MAC 5422	Basic Milling Operations	2	6	4
				18
SECOND QUARTER				
* MAC 5204	Blueprint Reading for Machinists II	1	2	2
* MAC 5304	Computer Numerical Control Programming – Turning Center	2	2	3
* MAC 5313	Layout, Hand Tool and Drill Press Procedures	1	6	3
* MAC 5320	Calculations for Machinists II	3	0	3
* MAC 5424	Grinding Machine Operations	2	6	4
MEC 5214	Applied Metallurgy I	1	3	2
[1] Technical Elective		2	0	2
				19
THIRD QUARTER				
* MAC 5315	General Machining and Maintenance OR	1	6	3
* MAC 5317	Computer Numerical Control Graphics Programming Turning Center	2	2	3
ENG 5500	Communication Skills	5	0	5
PHY 5304	Applied Physics I	2	2	3
* MAC 5305	Computer Numerical Control Programming – Machining Center	2	2	3
* MAC 5303	Computer Numerical Control Machining Center Operation	2	3	3
* MEC 5215	Applied Metallurgy II	1	3	2
				19
FOURTH QUARTER				
* MAC 5310	Computer Numerical Control Programming Applications OR	2	2	3
* MAC 5318	Computer Numerical Control Graphics Programming Machining Center	2	2	3
* MAC 5307	Machine Tool Applications	0	9	3
* MAC 5306	Computer Numerical Control Turning Center Operations	2	3	3
HSA 5200	Human Relations	2	0	2
* PHY 5305	Applied Physics II	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
[1] Technical Elective		2	0	2
				18

Total Credit Hours.....74

* Prerequisite or corequisite required; check course description.

[1] TECHNICAL ELECTIVES are to be selected from the following:

ISC 4307	Introduction to Robotics	2	2	3
* MAC 5205	Coordinate Measuring Machine Applications	1	2	2
MAC 5296	Machinist Co-Op I	0	20	2
* MAC 5297	Machinist Co-Op II	0	20	2
* MAC 5319	Advanced 3-D Graphics Programming	2	2	3
WLD 5220	Basic Electricity Arc Welding	1	3	2
WLD 5250	Basic Gas Metal Arc Welding	1	3	2

Manufacturing Engineering Technology (T050)

Official Program Description registered with the N.C. Department of Community Colleges:

The primary objective of the Manufacturing Engineering Technology curriculum is the training of personnel to assist the engineer or small industry in planning, tooling, operating, servicing and supervising manufacturing operations. This curriculum provides a basic background of mechanical and related theory with specific skills in the use of manufacturing and testing equipment. Students are given experiences in operating and servicing machines, accompanied by general education and management courses.

A graduate of this program may qualify for an entry position in one of several manufacturing functions: methods, analysis, production scheduling, quality control, materials testing, plant layout, time study, machine tooling, maintenance, and equipment and instrument work.

Degree Awarded

The Associate in Applied Science Degree – Manufacturing Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Manufacturing Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Manufacturing Engineering Technology curriculum at Central Piedmont Community College is a comprehensive program featuring extensive hands-on CAD/CAM instruction in the practical application of both fundamental and highly specialized

manufacturing engineering technology principles. Students advance from basic courses to specialized manufacturing, industrial, and mechanical engineering technology courses that provide concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology manufacturing including Robotics/Automation and CAD/CAM.

Completion of this program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

The Manufacturing Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Manufacturing Engineering Technology Program Director – 704/342-6553, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
* ENG 1504	English Composition I	5	0	5
* MAT3507	Engineering Technology Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
MEC3101	College and Career Orientation	I	0	I
EDP 3310	Microcomputer Operation	2	3	3
				18
SECOND QUARTER				
* MAT3508	Engineering Technology Math II	5	0	5
* PHY 1404	Physics I: Basic Mechanics	3	2	4
MEC3404	Manufacturing Processes I	3	3	4
MAC3201	Machine Operations for Engineering Technicians	1	3	2
* DFT 3314	Mech CAD 2D, AutoCAD OR			
* DFT 3324	Mechanical Computer Aided Drafting (CAD) IBM CAD	2	3	3
				18
THIRD QUARTER				
* PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
* ENG 3405	Technical English II	4	0	4
* MAT3509	Engineering Technology Math III	5	0	5
* MAC3202	CNC Programming and Machining for Engineering Technicians	1	3	2
* MEC3405	Manufacturing Processes II	3	3	4
				19
FOURTH QUARTER				
* PHY 1406	Physics III: Electricity and Magnetism	3	2	4
MEC4403	Engineering Materials	3	3	4
* MEC4434	Hydraulics and Pneumatics	3	3	4
EDP 3405	Microcomputer Programming - BASIC	3	2	4
! Technical Elective		3	0	3
				19
FIFTH QUARTER				
* ISC 4314	Statistical Quality Control	2	3	3
* ISC 4316	Process Planning	2	3	3
* MEC4508	Applied Mechanics	3	6	5
ISC 3301	Engineering Economic Analysis	2	3	3
* ELN 4415	Industrial Programmable Controllers	3	3	4
				18
SIXTH QUARTER				
SPH 1300	Oral Communications	3	0	3
* MEC3524	Mechanics of Materials	3	6	5
* ISC 4307	Introduction to Robotics	2	3	3
* ISC 3314	Computer Aided Manufacturing (CAM)	2	3	3
Art/Humanities Elective		3	0	3
				17
SEVENTH QUARTER				
* MEC4404	Tool and Die Design	2	6	4
* ISC 4308	Robotics/Automation	2	3	3
* ISC 4305	Plant Layout and Materials Handling	2	3	3
! Technical Elective		3	0	3
Behavioral/Social Science Elective		3	0	3
Open Elective		1	0	1
				17

Total Credit Hours 126

* Prerequisite or corequisite required; check course description.

! RECOMMENDED TECHNICAL ELECTIVES:

* COE 3100 Introduction to Co-Op Work Experience
* DFT 3320 Mech CAD 3D, AutoCAD
* DFT 3317 CAD Detailing
* DFT 3318 CAD Assembly
* DFT 3319 CAD Project
* DFT 3327 Mech CAD 2D, CADAM
* DFT 3337 Mechanical Computer Aided Drafting (CAD) Interactive, Graphics (CATIA)
* DFT 3338 Mechanical Computer Aided Drafting (CAD) Solids Geometry, (CATIA)
* DFT 3406 Descriptive Geometry with CAD

EDP 3335 Microcomputer Programming – MS/DOS
ISC 3307 Introduction to CIM (Computer Integrated Manufacturing)
MAT3516 Statistical Process Control
* MEC4284 Cooperative Work Experience I
* MEC4285 Cooperative Work Experience II
* MEC4402 Machine Design
* MEC4405 Mechanisms
* MEC4425 Thermodynamics
MGT4335 Production Planning and Control

Marketing and Retailing (T020)

Official Program Description registered with the N.C. Department of Community Colleges:

The Marketing and Retailing curriculum is designed to prepare the individual for entry into middle-management positions in various marketing and retailing businesses and industries. This purpose will be fulfilled through study and application in areas such as marketing and merchandising techniques, management, selling, advertising, retailing and credit and collection procedures. Through knowledge and skills, students will be able to

perform marketing and distribution activities, and through the development of personal competencies and qualities will be provided the opportunity to enter an array of marketing and distribution jobs.

Degree Awarded

The Associate in Applied Science Degree – Marketing and Retailing is awarded by the College upon completion of this program.

Note

Case studies, simulation, role playing, cooperative education experience, and research are integral parts of this program.

According to the Bureau of Labor Statistics, occupations with the greatest number of new jobs by 1995 include wholesale and retail salespeople.

For More Information

The Marketing and Retailing program is in the Business Administration Department. For more information, call the Program Director – 704/342-6529, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics and reading determine enrollment in English (ENG) and mathematics (MAT) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ /WK
FIRST QUARTER					
BUS 1500	Introduction to Business	5	0	0	0
BUS 3300	Human Relations	3	0	0	3
[1] FIN 3314	Business Math I	3	0	0	3
* ENG 1504	English Composition	5	0	0	5
MKT1304	Marketing I	3	0	0	0
					19
SECOND QUARTER					
BUS 2304	Business Law I	3	0	0	3
SPH 1301	Persuasive Speaking	3	0	0	3
ENG 3405	Technical English II	4	0	0	4
FIN 3315	Business Math II	3	0	0	3
* MKT1305	Marketing II	3	0	0	3
					17
THIRD QUARTER					
BUS 2305	Business Law II	3	0	0	3
* BUS 3305	Human Relations II	3	0	0	3
ECO 2304	Economics I	3	0	0	3
EDP 3310	Microcomputer Operations	2	0	3	3
[2]	General Elective – Math or Science	5	0	0	5
					17
FOURTH QUARTER					
* ECO 2305	Economics II	3	0	0	3
EDP 3324	Adv. Microcomputer Operations	2	2	0	3
MKT3320	Fundamentals of Selling	3	0	0	3
MKT4320	Retailing	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
					15
FIFTH QUARTER					
ACC 3600	General Accounting OR				
ACC 1604	Accounting I	5	2	0	6
MGT4330	Supervision	3	0	0	3
ECO 2306	Economics III	3	0	0	3
[3]	Technical Electives	6	0	0	6
					18
SIXTH QUARTER					
BUS 3304	Business Statistics	3	0	0	3
INS 3340	Principles of Risk and Insurance	3	0	0	3
MKT 3204	Cooperative Education	0	0	20	20
MKT 4321	Advertising	3	0	0	3
[3]	Technical Elective	3	0	0	3
	General Elective	2	0	0	2
					16
SEVENTH QUARTER					
MKT4384	Customer Service	3	0	0	3
TRN 4356	Physical Distribution Mgt	3	0	0	3
[3]	Technical Electives	9	0	0	9
					15

Total Credit Hours 116

* Prerequisite or corequisite required; check course description.

[1] Credit by examination available for this course.

[2] GENERAL EDUCATION (MATHEMATICS OR SCIENCE) ELECTIVES must have MAT, BIO, CHM, GEL, GEO, or PHY prefixes.

[3] TECHNICAL ELECTIVES: Students will select 18 hours from the following courses

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ /WK
INT 3300	Introduction to International Business	3	0	0	3
INT 3305	International Marketing	3	0	0	3
INT 3306	International Business Practice	3	0	0	3
MGT4322	Purchasing	3	0	0	3
MKT3205	Cooperative Education II	0	0	20	2
MKT3206	Cooperative Education III	0	0	20	2
MKT3300	Introduction to Textiles	3	0	0	3
MKT4305	Advanced Selling Skills	3	0	0	3
MKT4325	Sales Management	3	0	0	3
MKT4340	Merchandising	3	0	0	3
MKT4354	Visual Display	3	0	0	3
MKT4385	Services Marketing	3	0	0	3
MKT4386	Marketing and Research	3	0	0	3
MKT4387	Public Relations	3	0	0	3

Mechanical Drafting--See Drafting, Mechanical (V017)

Mechanical Engineering Technology (T051)

Official Program Description registered with the N.C. Department of Community Colleges:

The Mechanical Engineering Technology curriculum prepares technicians to assist engineers in the design and development of machinery and other mechanical equipment and parts and to perform other activities which require technical knowledge of factors such as tolerances, stresses, strains, friction, and vibration. The scope of subject matter covered prepares the graduate for employment in greatly diversified branches of the mechanical field.

The graduate may wish to work with testing experimental machinery and equipment and analyzing the results. Typical of such devices are internal combustion engines, steam turbines, jet and rocket engines, nuclear reactors, refrigeration and air conditioning equipment, missiles, spacecraft, marine equipment, motor vehicles, railroad equipment, and machines for specialized industries such as textile mills. Another specialty area that graduates may wish to pursue is that of the tool designer. Tool designers design tools and devices for the mass production of manufactured articles. They may also work with the instrumentation and design of machine tools in equipping plants of mills which require special construction to accommodate power-producing or transmitting machinery.

Degree Awarded

The Associate in Applied Science Degree – Mechanical Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Mechanical Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Mechanical Engineering Technology curriculum at Central Piedmont Community College features extensive use of CAD/CAM systems in the practical applications of both fundamental and highly specialized mechanical engineering technology principles. Students advance from basic courses to specialized mechanical engineering technology courses that furnish concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry, including CAD/CAM and Robotics/Automation.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technical problems.

For More Information

The Mechanical Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Program Director – 704/342-6553, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics,. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
* ENG 1504	English Composition I	5	0	5
* MAT3507	Engineering Technology Math I	5	0	5
DFT 3404	Mechanical Drafting I	2	6	4
MEC3101	College and Career Orientation	1	0	1
EDP 3310	Microcomputer Operations	2	2	3
				18
SECOND QUARTER				
* MAT3508	Engineering Technology Math II	5	0	5
* PHY 1404	Physics I:Basic Mechanics	3	2	4
* DFT 3314	Mech CAD 2D, AutoCAD OR			
* DFT 3324	Mechanical Computer Aided Drafting (CAD) IBM CAD	2	3	3
MEC3404	Manufacturing Processes I	3	3	4
MAC3201	Machine Operations for Engineering Technicians I	1	3	2
				18
THIRD QUARTER				
* ENG 3405	Technical English II	4	0	4
* MAT3509	Engineering Technology Math III	5	0	5
* PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
* MAC3202	CNC Programming and Machining for Engineering Technicians II	1	3	2
* MEC3405	Manufacturing Processes II	3	3	4
				19
FOURTH QUARTER				
* PHY 1406	Physics III: Electricity and Magnetism	3	2	4
* DFT 3327	Mech CAD 2D, CADAM OR			
* DFT 3337	Mechanical Computer Aided Drafting (CAD), Interactive Graphics (CATIA)	1	6	3
MEC4403	Engineering Materials	3	3	4
* MEC4434	Hydraulics and Pneumatics	3	3	4
EDP 3405	Microcomputer Programming – BASIC	3	2	4
				19
FIFTH QUARTER				
ISC 3301	Engineering Economic Analysis	2	3	3
* MEC4508	Applied Mechanics	3	6	5
* DFT 3338	Mechanical Computer Aided Drafting (CAD), Solids Geometry, (CATIA) OR			
* DFT 3320	Mech CAD 3D, AutoCAD			
	Art/Humanities Elective	3	0	3
'	Technical Elective	3	0	3
				17
SIXTH QUARTER				
SPH 1300	Oral Communications	3	0	3
* MEC3524	Mechanics of Materials	3	6	5
* MEC4405	Mechanisms	3	3	4
* ISC 4307	Introduction to Robotics	2	3	3
'	Technical Elective	3	0	3
				18
SEVENTH QUARTER				
* MEC4404	Tool and Die Design	2	6	4
* MEC4402	Machine Design	3	3	4
* MEC4425	Thermodynamics	3	3	4
	Behavioral/Social Science Elective	3	0	3
	Open Elective	2	0	2
				17

Total Credit Hours 124

* Prerequisite or corequisite required; check course descriptions.

' RECOMMENDED TECHNICAL ELECTIVES:

* COE 3100 Introduction to Co-Op Work Experience
* DFT 3317 CAD Detailing
* DFT 3318 CAD Assembly
* DFT 3319 CAD Project
* DFT 3405 Mechanical Drafting II

* DFT	3406	Descriptive Geometry with CAD
* ELN	3407	Electrical/Electronic Devices and Controls
* ELN	4415	Industrial Programmable Controllers
ISC	3307	Introduction to CIM (Computer Integrated Manufacturing)
* ISC	3314	Computer Aided Manufacturing (CAM)
* ISC	4305	Plant Layout and Materials Handling
* ISC	4307	Introduction to Robotics
* ISC	4308	Robotics/Automation
* ISC	4314	Statistical and Quality Control
* ISC	4316	Process Planning
MAT	3516	Introduction to Statistical Process Control
* MEC	4284	Cooperative Work Experience I
* MEC	4285	Cooperative Work Experience II
MGT	4335	Production Planning and Control

Medical Assisting (V031)

Official Program Description registered with the N.C. Department of Community Colleges:

The Medical Assisting curriculum prepares the graduate to assist the physicians in their offices or other medical settings such as hospitals and clinics, performing those administrative and clinical duties delegated by the physician and in accord with respective state laws governing such actions and activities.

The business/administrative duties include scheduling and receiving patients, obtaining patient data, maintaining medical records, typing and medical transcription, computer operations; handling telephone calls, correspondence, reports and manuscripts; assuming responsibility for office care, insurance matters, office accounts, fees and collections; and purchasing and maintaining supplies and equipment. The clinical duties may include preparing patients for examinations, obtaining vital signs, taking medical histories, assisting with examinations and treatments, performing routine laboratory procedures including electrocardiograms, sterilizing instruments and equipment for office procedures, and instructing patients in X-ray and laboratory examinations.

Diploma Awarded

A Diploma in Medical Assisting is awarded by the College upon completion of this program.

Graduates of this program may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants.

Credits from this program can be applied toward requirements for the Associate of Applied Science Degree in Medical Assisting (T058).

Program Accreditation

The Medical Assisting program at CPCC is accredited by the Commission on Allied Health Education and Accreditation (CAHEA) of the American Medical Association.

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses with a prefix of MED, MET, MRT, and HRC.

In addition to tuition and textbooks, this program has additional costs that include uniforms, lab coat, and a physical examination.

For More Information

The Medical Assisting program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 pr 6468.

Admissions

- Individuals desiring a career in medical assisting should, if possible, take biology, mathematics and typing courses prior to entering the programs.
- Students are admitted to the Medical Assisting program each quarter.
- Admission is based on placement tests in English, reading, and mathematics. If test scores indicate that Advancement Studies courses are to be taken, acceptance into the program is dependent upon completion of these courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER						
MED	3304	Medical Terminology and Vocabulary I	3	0	0	3
MED	4302	Ethics and Law	3	0	0	3
SEC	3303	Keyboarding	1	4	0	3
MED	5204	Orientation to Health Careers	2	0	0	2
* ENG	1504	English Composition I	5	0	0	5
MED	3302	Medical Lab Fundamentals	2	2	0	3
						19
SECOND QUARTER						
* MED	3305	Medical Terminology and Vocabulary II	3	0	0	3
* MED	3404	Medical Economics	4	0	0	4
* MET	3400	Introduction to Medical Transcription	2	4	0	4
EDP	3310	Microcomputer Operations	2	2	0	3
* MED	3303	Clinical Lab I	2	2	0	3
						17
THIRD QUARTER						
* MED	5614	Laboratory Procedures	3	6	0	6
* MED	3315	Medical Office Administration	3	0	0	3
* MED	3306	Medical Terminology and Vocabulary III	3	0	0	3
* MED	5503	Clinical Lab II	2	6	0	5
MED	3200	Health Insurance	2	0	0	2
						19
FOURTH QUARTER						
* MED	5707	Medical Office Practice	0	0	21	7
* MED	5104	Professional and Vocational Responsibilities of the MA	1	0	0	1
* MED	5315	Advanced Medical Office Procedures	3	0	0	3
* HRC	5302	Professional Interactions and the Health Worker	3	0	0	3
						14

Total Credit Hours.....69

* Prerequisite or corequisite required; check course description.

Medical Assisting Certificate (V031-A)

Specialization Certificate

The certificate below can be earned in the Medical Assisting (V031) program.

For More Information

For more information, call the Program Director – 704/342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors

can be reached by calling 704/342-6500 or 6468.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Medical Assisting Certificate with a specialization in Medical Reception (V031-A)

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
MED	3304	Medical Terminology and Vocabulary I	3	0	0	3
MED	3315	Medical Office Administration	3	0	0	3
MED	4302	Ethics and Law	3	0	0	3
SEC	3303	Keyboarding	1	4	0	3
HRC	5302	Professional Interactions and the Health Worker	3	0	0	3
MED	3200	Health Insurance	3	0	0	2

Total Credit Hours 17

Medical Assisting Technology (T058)

Official Program Description registered with the N.C. Department of Community Colleges:

The Medical Assisting curriculum prepares the graduate to be a multi-skilled practitioner qualified to perform administrative, clinical and laboratory procedures. The administrative aspects of instruction cover scheduling appointments; processing insurance accounts, medical reports, medical records, medical billing and collection; transcription and computer operations. Clinical and laboratory aspects of study include preparation of the patient for examination, assessing vital signs, assisting with examination and treatment, performing routine lab tests, using the electrocardiograph machine and administration of medication. Developing competencies in effective communication, managerial and supervisory skills, recognizing and responding to emergencies, and demonstrating adherence to ethical and legal standards of medical practices are emphasized.

Graduates may be employed in a variety of health-related services, such as physicians' offices, hospitals, clinics, industries, insurance companies, public health departments, nursing homes and extended care facilities.

Degree Awarded

The Associate in Applied Science Degree – Medical Assisting Technology is awarded by the College upon completion of this program.

Graduates of this program may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants.

Program Accreditation

The Medical Assisting Technology program at CPCC is accredited by the Committee on Allied Health and Accreditation (CAHEA) of the American Medical Association.

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses with a prefix of MED, MET, and MRT and HRC.

For More Information

The Medical Assisting Technology program is in the Health Technologies Department. For more information, Program Counselors can be reached by calling 704/342-6500 or 6468.

Program Director – 704/342-6965, weekdays, 8 a.m.-5 p.m.

Admissions

- Individuals desiring a career as a medical assistant should take biology, mathematics and typing courses prior to entering the program.
- Graduates of the existing one year Medical Assisting program at CPCC will be admitted with advanced standing.
- Students are admitted to the Medical Assisting Technology program each quarter.
- During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER						
	MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
	MED 4302	Ethics and Law	3	0	0	3
	SEC 3303	Keyboarding	1	4	0	3
	MED 5204	Orientation to Health Careers	2	0	0	2
*	ENG 1504	English Composition I	5	0	0	5
	MED 3302	Medical Lab Fundamentals	2	2	0	3
						19
SECOND QUARTER						
*	MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
*	MED 3404	Medical Economics	4	0	0	4
*	MET 3400	Introduction to Medical Transcription	2	4	0	4
	EDP 3310	Microcomputer Operations	2	2	0	3
*	MED 3303	Clinical Lab I	2	2	0	3
						17
THIRD QUARTER						
*	MED 5614	Laboratory Procedures	3	6	0	6
*	MED 3315	Medical Office Administration	3	0	0	3
*	MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
*	MED 5503	Clinical Lab II	2	6	0	5
	MED 3200	Health Insurance	2	0	0	2
						19
FOURTH QUARTER						
*	MED 5707	Medical Office Practice	0	0	21	7
*	MED 5104	Professional and Vocational Responsibilities of the MA	1	0	0	1
*	MED 5315	Advanced Medical Office Procedures	3	0	0	3
*	HRC 5302	Professional Interactions and the Health Worker	3	0	0	3
						14

After completion of the above four quarters, the following courses are required to complete the degree:

MAJOR COURSES						
*	MED 3307	Symptomatology	3	0	0	3
*	MED 3300	Drug Therapy	3	0	0	3
*	MED 5400	Clinical Education A	2	0	6	4
						10

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
RELATED COURSES					
* MRT 3424	Principles of Disease	4	0	0	4
MGT 4330	Supervision	3	0	0	3
* MAT 1504	College Algebra I	5	0	0	5
					12
GENERAL EDUCATION					
* ENG 1505	English Composition I	5	0	0	5
PSY 2504	General Psychology	5	0	0	5
SPH 1301	Persuasive Speaking	3	0	0	3
					13
ELECTIVE		3	0	0	3

Total Credit Hours 107

*Prerequisite or corequisite required; check course description.

Medical Office Technology (T032)

Official Program Description registered with the N.C. Department of Community Colleges:

This curriclum prepares students to enter the medical secretarial profession. The medical secretary performs secretarial duties utilizing the knowledge of medical terminology and medical office and/or laboratory procedures. Skills are taught in processing medical documents using computerized functions and/or manual functions. Compiling and recording medical charts, reports, case histories, and correspondence using the typewriter or automated office equipment, scheduling appointments, and preparing and sending bills to patients are duties performed in the medical office and taught in this curriculum.

Graduates may find employment opportunities with medical supply and equipment manufacturers, madical laboratories, the offices of physicians, hospitals, and other medical care providers.

Degree Awarded

The Associate in Applied Science Degree – Medical Office Technology is awarded by the College upon completion of this program.

Note

Credit by examination for some SEC courses can be arranged by contacting the Department Head.

A suggested sequence of required courses for full-time students is listed below.

For More Information

The Medical Office Technology program is in the Computer and Office Information Systems Department. For more information, call the Program Director – 704/342-6781, a Program Counselor – 704/342-6426 or 6229, or the Department Office – 704/342-6549, weekdays, 9 a.m.-4 p.m.

Admissions

A High School Diploma or equivalent is required.

First Step to Enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3303	Keyboarding	1	4	0	3
MED 3302	Medical Lab Fundamentals	2	2	0	3
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
ENG 3515	Essentials of Grammar	5	0	0	5
SEC 4324	Information Processing Concepts	3	0	0	3
SEC 3104	Electronic Calculator		2	0	1
					18
SECOND QUARTER					
* SEC 3405	Document Formatting I	3	2	0	4
FIN 3314	Business Mathematics I	3	0	0	3
* MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
* ENG 1504	English Composition I	5	0	0	5
MED 3200	Health Insurance	2	0	0	2
BUS 3300	Human Relations I	3	0	0	3
					20
THIRD QUARTER					
* SEC 3406	Document Formatting II	3	2	0	4
SEC 4370	Records Management	3	0	0	3
* MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
* SEC 4429	Word Processing I	3	2	0	4
SEC 3305	Editing, Proofreading and Reference Skills	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
					20
FOURTH QUARTER					
* SEC 4416	Medical Document Production	3	2	0	4
* SEC 4305	Business Communications	3	0	0	3
* SEC 4430	Word Processing II	3	2	0	4
* MET 3400	Introduction to Medical Transcription	2	4	0	4
	Elective				1
[11]	Related Elective				3
					19
FIFTH QUARTER					
MED 4302	Medical Ethics and Law	3	0	0	3
SEC 3302	Effective Word Techniques	3	0	0	3
* SEC 4517	General Office Procedures	5	0	0	5
* SEC 4425	Machine Transcription	3	2	0	4
[2]	General Education Elective				3
					18
SIXTH QUARTER					
* EDP 3215	Microcomputer Software – LOTUS 1-2-3	1	2	0	2
MGT 4331	Administrative Office Management	3	0	0	3
ACC 3600	General Accounting OR				
ACC 1604	Principles of Accounting I	5	2	0	6
* SEC 4201	Secretarial Cooperative Experience I	0	0	20	2
SPH 2300	Voice and Diction	3	0	0	3
ECO 3300	Introduction to Economics	3	0	0	3
					19

Total Credit Hours 114

*Prerequisite or corequisite required; check course description.

[1] RELATED ELECTIVES to be selected from:
SEC 3311 Receptionist Skills
SEC 3320 Personal Projections
SEC 3414 Shorthand I
SEC 4400 Typing Skill Building
EDP 2306 Computer Programming I (Business)
EDP 3324 Advanced Microcomputer Operations
EDP 3335 Microcomputer Programming – MS/DOS
EDP 3217 Microcomputer Software – Data Base
BUS 2304 Business Law I
BUS 3305 Human Relations II
MED3300 Drug Therapy
MED3404 Medical Economics

[2] GENERAL ELECTIVES to be chosen from ECO, ENG, PSY, SOC, or SPH prefixes.

Medical Record Technology (T053)

Official Program Description registered with the N.C. Department of Community Colleges:

The Medical Record Technology curriculum prepares the individual with the knowledge and skills to process, maintain, compile and report health information. Technical knowledge and skills include those necessary to assemble, analyze, abstract and maintain medical records; supervise medical record department functions; classify code and index diagnoses and procedures for reimbursement, statistical and administrative purposes; provide information for cost control, assurance of quality health care, marketing and planning for health services and risk management; prepare reports for health-related organizations such as federal, state and regulatory agencies and those responsible for health care reimbursement; complete research studies such as those done to review the quality of medical care; and maintain the confidentiality and security of patient information.

Medical Record Technicians may find employment in hospitals, rehabilitation facilities, nursing homes, health insurance organizations, out-patient clinics, and mental health facilities.

Degree Awarded

The Associate in Applied Science Degree – Medical Record Technology is awarded by the College upon completion of this program.

Graduates of an accredited program are eligible to apply to take the national qualifying examination for certification as an Accredited Record Technician (ART).

Note

Courses in the following areas will be helpful to students: computer science, biology, health occupations, and typing.

In addition to tuition and textbooks, there are program-related costs: coding classes require the purchase of current versions of ICD-9-CM and CPT-4 code books; directed practice requires a physical examination and updated immunizations; directed practice courses require travel to health care facilities that may be as much as 40 miles from Charlotte; opportunities for one or more directed practice rotations that require overnight travel are offered to students, but are not required. While every effort is made to accommodate the needs of students who do not have access to an automobile, the program cannot guarantee that directed practice sites will be located on bus lines.

Progression in this program is dependent upon a score of C or better in all courses with MRT, BIO, and MED prefixes.

For More Information

The Medical Record Technology program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6452, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- A High School Diploma or equivalent is required.
- Placement testing in English, mathematics and reading is required to quality for ENG 1504 and MAT 1504. Scores on placement tests may require students to take specified Advancement Studies courses. If required, completion of these courses is necessary prior to program admission. Students may, with approval of the Program Director, take no more than two preadmission courses during their first quarter of program admission.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
MRT 3201	Orientation to Medical Record Technology	2	0	0	2
* ENG 1504	English Composition I	5	0	0	5
MRT 3300	Medical Record Content and Maintenance	2	2	0	3
					18
SECOND QUARTER					
BIO 1505	Human Anatomy and Physiology II	3	4	0	5
* MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
MRT 4312	Legal Aspects of Medical Record Technology	3	0	0	3
* ENG 1505	English Composition II	5	0	0	5
* MAT 1504	College Algebra I	5	0	0	5
					21
THIRD QUARTER					
* MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
SPH 1301	Persuasive Speaking	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
BIO 1503	Microbiology	3	4	0	5
					14
FOURTH QUARTER					
SEC 3312	Introduction to Word Processing	2	2	0	3
PSY 2504	General Psychology	5	0	0	5
* MET 3400	Medical Record Transcription	2	4	0	4
					12
FIFTH QUARTER					
* MRT 3424	Principles of Disease	4	0	0	4
MRT 4315	Medical Records Standards and Regulations	3	0	0	3
* MRT 3302	Basic ICD-9-CM Coding	2	2	0	3
MGT 4330	Personnel Supervision	3	0	0	3
[1]	Elective	2	0	0	2
					15
SIXTH QUARTER					
* MRT 3301	Quality Assurance in Health Care Facilities	2	2	0	3
* MRT 4408	Intermediate Coding	3	2	0	4
* MRT 3414	Medical Record Statistics	3	2	0	4
* MRT 3204	Directed Practice I	0	0	6	2
[1]	Elective	2	0	0	2
					15

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
SEVENTH QUARTER					
* MRT 3303	Advanced Coding Concepts	2	2	0	3
* MRT 4405	Medical Record Seminar	4	0	0	4
* MRT 4406	Directed Practice II	0	0	12	4
* MRT 4407	Directed Practice III	0	0	12	4
					15

Total Credit Hours 110

* Prerequisite or corequisite required; check course description.

[1] A total of two elective courses is required with a minimum of two credit hours.

Note: During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor. This curriculum may be taken on either a full-time or part-time basis.

Medical Transcription (V127)

Official Program Description registered with the N.C. Department of Community Colleges:

The Medical Transcription curriculum is designed to provide the individual with the knowledge and skills for employment as a medical transcriptionist. This objective is fulfilled through study and application in transcribing medical records; transcribing correspondence from machines; filing of correspondence, records, and other data.

Certificate Awarded

A Certificate in Medical Transcription is awarded by the College upon completion of this program.

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses in the curriculum.

In addition to tuition and textbooks, there is the additional cost of a lab coat that is required during Transcription Practice I and II.

For More Information

The Medical Transcription program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admission

- Students are admitted to the Medical Transcription Program each quarter. Acceptance is based on specific placement tests in English and reading. If test scores indicate that advancement studies courses are to be taken, acceptance into the program is dependent upon successful completion of these courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
ENG 3515	Essentials of Grammar	5	0	0	5
MED3304	Medical Terminology and Vocabulary I	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
MED3302	Medical Lab Fundamentals	2	2	0	3
					14
SECOND QUARTER					
* SEC 3405	Document Formatting I	3	2	0	4
* MED3305	Medical Terminology and Vocabulary II	3	0	0	3
* MET 3400	Introduction to Medical Transcription	2	4	0	4
* MED3315	Medical Office Administration	3	0	0	3
* MED3200	Health Insurance	2	0	0	2
					16
THIRD QUARTER					
* MED3306	Medical Terminology and Vocabulary III	3	0	0	3
* SEC 4429	Word Processing I	3	2	0	4
* MET 3904	Transcription	4	10	0	9
					16
FOURTH QUARTER					
* MET 3204	Medical Transcription as a Professional	2	0	0	2
* MET 3505	Transcription Practice I	1	0	12	5
* MET 3406	Transcription Practice II	0	0	12	4
					11

Total Credit Hours.....57

*Prerequisite or corequisite required; check course description.

Microcomputer Systems Technology (T192)

Official Program Description registered with the N.C. Department of Community Colleges:

The purpose of the Microcomputer Systems Technology curriculum is to prepare graduates for employment with business, industry, and government organizations that use or are planning to use computers to process and manage information.

Using microcomputers or other small computer systems, students will learn to apply a variety of commonly used business applications and systems software; set up microcomputer hardware and install software; develop user training programs and user documentation; evaluate and recommend hardware and software; assist users in resolving hardware and software problems; and develop control and security procedures. Students will also learn the fundamentals of microcomputer networking.

Degree Awarded

The Associate in Applied Science Degree – Microcomputer Systems Technology is awarded by the College upon completion of this program.

For More Information

The Microcomputer Systems Technology program is in the Computer and Office Information Systems Department. For more information, call the Department office – 704/342-6549, or a Program Counselor – 704/342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement testing determines admission to English (ENG) courses.

First step to enroll:

Call the Welcome Center – 704/342-6719.

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER			
EDP 3310 Microcomputer Operations	2	2	3
EDP 1500 Computer Literacy	5	0	5
SEC 5200 Computer Keyboarding	1	2	2
ENG 1504 English Composition I	5	0	5
			15
SECOND QUARTER			
* EDP 3324 Advanced Microcomputer Operations	1	4	3
EDP 3335 Microcomputer Programming – MS/DOS	2	2	3
FIN 3314 Business Mathematics I	3	0	3
ENG 3405 Technical English II	4	0	4
SEC 4324 Information Processing Concepts	3	0	3
			16
THIRD QUARTER			
* EDP 3316 Advanced LOTUS	2	2	3
* EDP 3318 Advanced DBASE	2	2	3
* EDP 3336 Advanced MS/DOS	2	2	3
ELN 4416 Computer Maintenance I	3	3	4
* FIN 3315 Business Mathematics II	3	0	3
			16
FOURTH QUARTER			
EDP 3405 Microcomputer Programming – BASIC	3	2	4
* ELN 4456 Local Area Networks	3	3	4
ACC 1604 Principles of Accounting I	5	2	6
SPH 1300 Oral Communications	3	0	3
			17
FIFTH QUARTER			
PRN 5317 Electronic Publishing I and Typesetting	2	2	3
* EDP 3406 Microcomputer Programming Advanced BASIC	3	2	4
* EDP 3337 OS/2 Operating System OR			
* EDP 3339 AIX Operating System	2	2	3
* EDP 4314 Systems and Procedures	3	0	3
[1] Technical Elective			4
			17
SIXTH QUARTER			
EDP 4330 User Support and Software Evaluation	1	4	3
PRN 5319 Electronic Publishing II	2	2	3
EDP 3407 Programming Business Applications for Microcomputers	3	2	4
EDP 3410 Microcomputer Programming – C Language	3	2	4
ACC 4414 Microcomputer Accounting	2	4	4
			18
SEVENTH QUARTER			
Elective			3
ECO 3300 Introduction Economics	3	0	3
Humanities Elective	3	0	3
SEC 4370 Records Management	2	2	3
[1] Technical Elective			6
			18
Total Credit Hours			117

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
[1] TECHNICAL ELECTIVES should be chosen from the following:			
EDP 4286 Cooperative Work Experience I	0	20	2
EDP 4287 Cooperative Work Experience II	0	20	2
EDP 3411 Advanced C Programming	3	2	4
EDP 1407 Computer Concepts and PASCAL Programming I	3	2	4
EDP 1408 Advanced PASCAL	3	2	4
EDP 5201 CRT Use In Business Applications	2	0	2
EDP 3350 Introduction to Artificial Intelligence	2	2	3

Nursing, Associate Degree (T059)

Official Program Description registered with the N.C. Department of Community Colleges:

The Associate Degree Nursing curriculum is designed to prepare graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by Associate Degree Nursing graduates consists of assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens; recording and reporting the results of the nursing assessment; planning, initiating, delivering, and evaluating appropriate nursing acts; teaching, delegating to or supervising other personnel in implementing the treatment regimen; collaborating with other health care providers in determining the appropriate health care for a patient; implementing the treatment and pharmaceutical regimen prescribed by any person authorized by state law to prescribe such a regimen; providing teaching and counseling about the patient's health care; reporting and recording the plan for care, nursing care given, and the patient's response to that care; and supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

Degree Awarded

The Associate in Applied Science Degree – Nursing is awarded by the College upon completion of this program.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a registered nurse.

Note

In addition to tuition and textbooks, costs of this program include uniforms, lab coat, stethoscope, bandage scissors, physical examination, and registration fee for CPR certification.

In order to progress in this program, students must earn a C or better in all curriculum courses.

For More Information

The Associate Degree Nursing program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6725, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500.

Admissions

- Individuals desiring a career in registered nursing should take biology, algebra, and chemistry courses prior to entering the program.
- After completing the CPCC Admissions Form and taking placement tests, applicants meet with a Program Counselor. Advancement Studies courses may be required, based on placement test scores, before an applicant is accepted into

the Nursing program.

- Applicants must submit a complete high school transcript supporting graduation or evidence of a high school education.
- Applicants must also present evidence of good physical and mental health.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
* NUR 3305	Nutrition for Nurses	3	0	0	3
* NUR 3704	Fundamentals of Nursing I	4	2	6	7
BIO 1504	Anatomy and Physiology I	3	4	0	5
* MAT1504	College Algebra I	5	0	0	5
					20
SECOND QUARTER					
* NUR 3805	Fundamentals of Nursing II	4	2	9	8
BIO 1505	Anatomy and Physiology II	3	4	0	5
PSY 2504	General Psychology	5	0	0	5
					18
THIRD QUARTER					
* NUR 3904	Care of the Adult Patient I	4	2	12	9
* NUR 3216	Physical Assessment	2	0	0	2
BIO 1503	Microbiology	3	4	0	5
SPH 1301	Persuasive Speaking OR				
SPH 2300	Voice and Diction OR				
SPH 2304	Public Speaking	3	0	0	3
					19
FOURTH QUARTER					
* NUR 3905	Care of the Adult Patient II	4	2	12	9
* PSY 2514	Abnormal Psychology	5	0	0	5
					14
[1] FIFTH QUARTER					
* NUR 4514	Matemal-Newbom Nursing (5-½ weeks)	3	0	6	5
* NUR 4515	Psychiatric Nursing (5-½ weeks)	3	0	6	5
* ENG 1504	English Composition I	5	0	0	5
					15
[1] SIXTH QUARTER					
* NUR 4915	Nursing of Children	4	0	15	9
* ENG 1505	English Composition II	5	0	0	5
SOC 2514	Introduction to Sociology	5	0	0	5
					19
[1] SEVENTH QUARTER					
* NUR 4304	Nursing Perspectives	3	0	0	3
* NUR 4606	Advanced Care of the Adult Patient	6	0	0	6
* NUR 4505	Nursing Practicum-Advanced Care	0	0	15	5
Elective		3	0	0	3
					17

Total Credit Hours 122

*Prerequisite or corequisite required; check course description.

[1]Sequence of Fifth and Sixth quarters may be reversed for one-half of the students in the class.

Nursing, Practical (V038)

Official Program Description registered with the N.C. Department of Community Colleges:

The Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse.

The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina Nursing Practice Act, 1981: participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens; recording and reporting the results of the nursing assessment; participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by state law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by State law to provide such supervision; reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolinas, or dentist; and reporting and recording the nursing care rendered and the client's response to that care.

Licensed Practical Nurses may be employed in hospitals, nursing homes, clinics, doctors' offices, industry, and public health agencies.

Diploma Awarded

A Diploma in Practical Nursing is awarded by the College upon completion of this program.

Note

Students must earn a grade of C or better in all curriculum courses in order to progress in the program.

In addition to tuition and textbooks, costs of this program include uniforms, shoes, stethoscope, bandage scissors, physical examination, liability and health care insurance, fees for application for licensure for the North Carolina State Board of Nursing and National Council Licensure Examination, and the nursing pin.

For More Information

The Practical Nursing program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6725, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- Individuals desiring a career in practical nursing are encouraged to take mathematics and science courses in high school.
- After completing the CPCC Admissions Form and placement tests in English, mathematics, and reading, applicants meet with a Program Counselor. Applicants who are required to do so, complete Advancement Studies courses to remove deficiencies indicated by placement test scores before being accepted into the program.
- A high school transcript indicating graduation, or GED, or HSC certification is required.
- Applicants must also submit evidence of good physical and mental health.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
FIRST QUARTER					
* NUP 5300	Basic Principles of Drug Administration	3	0	0	3
* NUP 5804	Introduction to Patient Care	7	2	0	8
* NUP 5204	Nursing Practicum – Basic Clinical Skills	0	8	6	3
BIO 1504	Anatomy and Physiology I	3	4	0	5
* NUR 3305	Nutrition for Nurses	3	0	0	3
					22
SECOND QUARTER					
* NUP 5703	Care of Patients with Medical/ Surgical Conditions I	6	2	0	7
* NUP 5502	Nursing Practicum I	0	0	15	5
BIO 1505	Anatomy and Physiology II	3	4	0	5
PSY 2504	General Psychology	5	0	0	5
					22
THIRD QUARTER					
* NUP 5705	Care of Patients with Medical/ Surgical Conditions II	6	2	0	7
* NUP 5503	Nursing Practicum II	0	0	15	5
ENG 1504	English Composition I	5	0	0	5
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
					19
FOURTH QUARTER					
* NUP 5406	Care of Infants and Children	4	0	0	4
* NUP 5302	Nursing Practicum III	0	0	9	3
* NUP 5407	Care of Mothers and Newborn Infants	4	0	0	4
* NUP 5303	Nursing Practicum IV	0	0	9	3
NUP 5304	Nursing Seminar	3	0	0	3
					17

Total Credit Hours 80

*Prerequisite or corequisite required; check course description.

Occupational Health, Safety and Environmental Technology (T153)

Official Program Description registered with the N.C. Department of Community Colleges:

The Occupational Health, Safety and Environmental Technology curriculum prepares individuals for employment in the fields of industrial hygiene, occupational safety and environmental concerns. The industrial hygiene area focuses on facility hygiene practices, procedures and principles such as the monitoring of dusts, fumes or mists; selection of personal protective equipment; and performing noise level monitoring. The occupational safety area focuses on hazard identification and elimination through the use of safety audit surveys. The environmental area focuses on environmental law issues, waste management techniques and regulations. The curriculum provides instruction in chemistry; health and biological sciences; law and environmental regulations; principles of safety and loss prevention; and waste management.

Degree Awarded

The Associate in Applied Science Degree – Occupational Health, Safety and Environmental Technology is awarded by the College upon completion of this program.

For More Information

The Occupational Health, Safety and Environmental Technology program is in the Accounting and Public Safety Department. For more information, call the Program Director – 704/342-5941, weekdays, 8 a.m.-4:30 p.m. The Program Counselors can be reached by calling 704/342-6550 or 6059.

Admission

- A High School Diploma or equivalent is required.
- Placement tests are required for English (ENG 1504) and mathematics (MAT 1504), unless college transcripts verify that these prerequisites have been met.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HR CLC /WK	HRS CR/ QTR
FIRST QUARTER					
* ENG 1504	English Composition I	5	0	0	5
HSE 3401	Occupational Safety	4	0	0	4
* MAT1504	College Algebra I	5	0	0	5
HSE 4500	Environmental Liability	5	0	0	5
					19
SECOND QUARTER					
[1] * ENG 3405	Technical English II	4	0	0	4
* CHM1504	General Chemistry I	3	4	0	5
MGT2314	Principles of Management	3	0	0	3
BIO 1500	Biological Science	3	4	0	5
					17
THIRD QUARTER					
* CHM1505	General Chemistry II	3	4	0	5
* HSE 4504	Basic Industrial Hygiene	4	2	0	5
HSE 3311	Practical Electrical Safety	3	0	0	3
[2] Elective	– Humanities or Fine Arts	3	0	0	3
					16
FOURTH QUARTER					
* BUS 3304	Business Statistics	3	0	0	3
BIO 1503	Microbiology	3	4	0	5
ENG 5500	Communication Skills	5	0	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
					16
FIFTH QUARTER					
* HSE 4514	Industrial Hygiene Management	5	0	0	5
HSE 4401	Environmental Regulations	4	0	0	4
[3] Elective	– Social or Behavioral Science	3	0	0	3
[4] Elective	– Technical	3	0	0	3
					15
SIXTH QUARTER					
HSE 4503	Environmental Management and Control	5	0	0	5
HSE 3301	Safety Engineering	3	0	0	3
[4] Electives	– Technical	3	0	0	3
Free Elective		3	0	0	3
					14
SEVENTH QUARTER					
* HSE 4515	Industrial Hygiene/Sampling Techniques	4	2	0	5
HSE 4300	Ergonomics	3	0	0	3
[4] Electives	– Technical	6	0	0	6
					14

Total Credit Hours 111

* Prerequisite or corequisite required; check course description.

[1] May substitute ENG 1505.

[2] HUMANITIES OR FINE ARTS ELECTIVES: Select 3 hours

		HRS CLS /WK	HRS LAB /WK	HR CLC /WK	HRS CR/ QTR
HUM1300	The Ascent of Man	3	0	0	3
HUM1319	Mythology	3	0	0	3
HUM1500	Humanities-Classical to Medieval	5	0	0	5
SPH 2300	Voice and Diction	3	0	0	3
SPH 2304	Public Speaking	3	0	0	3

[3] SOCIAL OR BEHAVIORAL SCIENCE ELECTIVES: Select 3 hours

ECO 2304	Economics I	3	0	0	3
*ECO 2305	Economics II	3	0	0	3
HIS 2500	North Carolina History	5	0	0	5
PHI 1500	Introduction to Philosophy	5	0	0	5
POL 1502	American Politics	5	0	0	5
PSY 1500	Psychology of Adjustment	5	0	0	5
PSY 2500	Educational Psychology	5	0	0	5
PSY 2504	General Psychology	5	0	0	5
SOC 1301	Group Interaction	3	0	0	3
SOC 2514	Introduction to Sociology	5	0	0	5

[4] TECHNICAL ELECTIVES: Students must choose a total of 12 hours from the following:

BUS 2304	Business Law	3	0	0	3
*LEX 4321	Tort Law	3	0	0	3
*CHM1506	Chemistry III	3	4	0	5
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
BIO 1501	General Botany	3	4	0	5
FIP 3303	Fire Protection I	3	0	0	3
*MAT1505	College Algebra II	5	0	0	5
COE 3100	Introduction to Cooperative Education	1	0	0	1
*HSE 4290	Cooperative Work Experience I	0	0	20	2
*HSE 4291	Cooperative Work Experience II	0	0	20	2

Paralegal Certificate (T120 - A)

Overview

This program is designed for students who have a Bachelor's Degree.

Certificate Awarded

A Paralegal Cetificate is awarded by the College upon completion of this program.

Note

Good reading and writing skills are essential to the successful completion of this program.

Individuals who plan to enroll as full-time students in this program should take the following courses in their first quarter: Business Law I (BUS 2304), Case Analysis and Reasoning I (LEX 3300), Introduction to Civil Procedure (LEX 3310), Legal Research I (LEX 3303), and either Evidence (LEX 3320), Tort Law (LEX 4321), Domestic Relations Law (LEX 4300), or Corporate Law (LEX 4323).

Individuals who plan to enroll part-time are advised to take the courses in the order listed above.

Admission

- Individuals seeking admission should submit a written request for permission to enroll in the Paralegal Certificate Program to the Paralegal Technology Program Director or the Business Administration Department Head.
- Admission to this program is subject to the discretion of the Program Director or the Department Head.

For more information

For more information, call the Program Director – 704/342-6783.

The first step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ /WK
MAJOR COURSES				
BUS 2304	Business Law I	3	0	3
LEX 3300	Case Analysis and Reasoning I	3	0	3
LEX 3303	Legal Research I	3	0	3
[1]*LEX 3304	Legal Research II	3	0	3
LEX 3310	Introduction to Cival Procedure	3	0	3
LEX 4280	Legal Ethics	2	0	2
[1]*LEX 4314	Wills, Trusts and Probate	3	0	3
[2]*LEX 4323	Legal Writing I	3	0	3
[2]*LEX 4324	Legal Writing II	3	0	3
*LEX 4332	Trial Preparation and Procedures	3	0	3
	Electives from the Paralegal Techmology Electives list	6	0	6
				41
ELECTIVES LIST				
*BUS 2305	Business Law II	3	0	3
*LEX 3301	Case Analysis and Reasoning I	3	0	3
LEX 3306	Administrative Law	3	0	3
*LEX 3320	Evidence	3	0	3
LEX 4300	Domestic Relations Law	3	0	3
LEX 4313	Collections and Bankruptcy	3	0	3
*LEX 4321	Tort Law	3	0	3
LEX 4340	Qualified Pension Plans	3	0	3
LEX 4323	Corporate Law	3	0	3
LEX 4341	Worker's Compensation Law	3	0	3
LEX 4361	Interpreting Medical Records	3	0	3
*LEX 4620	Real Property Law and Title Abstracting	6	0	6

* Prerequisite or corequisite required; check course description.

[1] A grade of C or better in LEX 3300 and LEX 3310.

[2] Prerequisite: A grade of C or better in LEX 3303 and LEX 3304.

Paralegal Technology (T120)

Official Program Description registered with the N.C. Department of Community Colleges:

The Paralegal Technology curriculum trains individuals in basic knowledge and applications of the law to work under the supervision of attorneys. The paralegal/legal assistant can support attorneys by performing routine legal tasks, and assisting with more complicated and difficult legal work. Training will include legal specialty courses such as legal research, real estate, litigation preparation, as well as general subjects such as English, oral communications, mathematics, and computer skills.

Graduates of the Paralegal Technology curriculum are trained to assist an attorney or group of attorneys in many areas of the law. A paralegal/legal assistant is not able to practice law,

give legal advice, or represent clients in a court of law. However, paralegals/legal assistants can represent clients in some administrative hearings. Paralegal graduates will be able to assist in work in probate matters, conduct investigations, search public records, serve and file legal documents, perform library research, and provide office management.

Employment opportunities and job descriptions vary greatly depending on whether a paralegal/legal assistant is hired by a private law firm, or a government agency, or a corporation such as a bank or insurance company.

Note

Good reading and writing skills are essential to the successful completion of this program. Individuals who plan to enroll as full-time students should take the following courses in their first quarter of enrollment in the program: Legal Terminology and Vocabulary (SEC 3301), Keyboarding (SEC 3404), Business Law I (BUS 2304), Case Analysis and Reasoning I (LEX 3300), and Introduction to Civil Procedure (LEX 3310).

Individuals who plan to enroll in the program as part-time students are advised to take the courses in the order listed above.

Students should review course prerequisites carefully and consult with their Faculty Advisor or Program Counselor prior to registering for courses.

Degree Awarded

An Associate in Applied Science Degree – Paralegal Technology is awarded by the College upon completion of this program.

For More Information

The Paralegal Technology Program is in the Business Administration Department. For more information, call the Program Director – 704/342-6873. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

• A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719

		HRS CL /WK	HRS LAB /WK	HRS CR /WK
MAJOR COURSES				
BUS 2304	Business Law I	3	0	3
LEX 3300	Case Analysis and Reasoning I	3	0	3
* LEX 3301	Case Analysis and Reasoning II	3	0	3
* LEX 3303	Legal Research I	3	0	3
* LEX 3304	Legal Research II	3	0	3
LEX 3306	Administrative Law	3	0	3
LEX 3310	Introduction to Civil Procedure	3	0	3
* LEX 3320	Evidence	3	0	3
LEX 4280	Legal Ethics	2	0	2
LEX 4300	Domestic Relations Law	3	0	3
LEX 4313	Collections and Bankruptcy	3	0	3
* LEX 4314	Wills, Trusts and Probate	3	0	3
* LEX 4321	Tort Law	3	0	3
* LEX 4322	Corporate Law	3	0	3
* LEX 4323	Legal Writing I	3	0	3
* LEX 4324	Legal Writing II	3	0	3
* LEX 4332	Trial Preparation and Procedures	3	0	3
* LEX 4620	Real Property Law and Title Abstracting	6	0	6
		56	0	56

TECHNICAL ELECTIVES

In consultation with their Faculty Advisor, each student selects 11 credit hours from the courses listed below as TECHNICAL ELECTIVES. Course substitution for Technical Electives will be allowed at the discretion of the Program Director.

		HRS CL /WK	HRS LAB /WK	HRS CR /WK
BAF 3302	Law and Banking Principles	3	0	3
BAF 4314	Real Estate Finance	3	0	3
* BUS 2305	Business Law II	3	0	3
* BUS 2306	Business Law III	3	0	3
BUS 3300	Human Relations I	3	0	3
FIN 4334	Business Finance I	3	0	3
INS 4321	Income Tax/Financial Plan	3	0	3
INT 3300	Intro to International Business	3	0	3
INT 4307	International Business Law	3	0	3
* LEX 4290	Cooperative Work Experience I	2	20	2
* LEX 4291	Cooperative Work Experience II	2	20	2
LEX 4340	Qualified Pension Plans	3	0	3
LEX 4341	Worker's Compensation Law	3	0	3
LEX 4361	Interpreting Medical Records	3	0	3
MGT 3303	Small Business Management	3	0	3
MGT 4330	Supervision	3	0	3
RES 3601	Fundamentals of Real Estate	6	0	6
SPH 2300	Voice and Diction	3	0	3

RELATED COURSES Students are required to take the following related courses:

ACC 1604	Principles of Accounting	5	2	6
EDP 3310	Microcomputer Operations	2	2	3
MAT 1504	College Algebra OR Laboratory Science Elective	5	0	5
SEC 3301	Legal Terminology and Vocabulary	3	0	3
SEC 3404	Keyboarding	3	2	4
SEC 4429 SEC 3312	Introduction to Word Processing I OR Introduction to Word Processing	3	2	4
				25

GENERAL EDUCATION Students are required to take all of the following courses:

* ENG 1504	English Composition I	5	0	5
* ENG 1505 * ENG 3404	English Composition II OR Technical English II	5	0	0
PHI 2500	Logic	5	0	5
Social Science Elective		5	0	5
				20

FREE ELECTIVE		3	0	3

Total Credit Hours 120

* Prerequisite or corequisite required; check course description.

Physical Therapist Assistant (7062)

Official Program Description registered with the N.C. Department of Community Colleges:

The Physical Therapist Assistant curriculum prepares graduates to assist the professional physical therapist in a variety of direct patient care services, delegated by the supervising therapist, to restore function by alleviation or prevention of physical impairment, and other activities essential to the operation of a physical therapy service.

Employment opportunities are available in general hospitals, rehabilitation centers, extended care facilities, specialty hospitals, home health agencies, private clinics, and public school systems.

Degree Awarded

The Associate in Applied Science Degree – Physical Therapist Assistant is awarded by the College upon completion of this

program.

Graduates are eligible to take the licensing examination given by the North Carolina Board of Physical Therapy Examiners.

Program Accreditation

The Physical Therapist Assistant program at CPCC is accredited by the American Physical Therapy Association.

Note

The first three quarters of this curriculum consist of non-PTH courses. In order to progress to PTH courses, the student must complete each non-PTH course with a grade of C or better. Students who progress into fourth quarter courses will be selected randomly from among those who have completed the first, second, and third quarter courses with a grade of C or better in each course. Continued progression in the program from the fourth through the eight quarter requires a grade of C or better in each PTH course.

In addition to tuition and textbooks, costs of the program include but are not limited to uniforms, travel to clinical sites, and a physical examination.

For More Information

The Physical Therapist Assistant program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6505, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- Suggested preparatory courses for individuals desiring a career in physical therapy assisting include biology, algebra, and possibly chemistry.
- A High School Diploma or equivalent is required.
- Placement tests, completion of any required Advancement Studies courses, documentation of clinical observation, and two letters of reference are required for this program.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
PSY 2504	General Psychology	5	0	0	5
MED3304	Medical Terminology and Vocabulary I	3	0	0	3
HED 1203	Cardiopulmonary Resuscitation	2	0	0	2
					15
SECOND QUARTER					
* BIO 1505	Human Anatomy and Physiology II	3	4	0	5
* ENG 1504	English Composition I	5	0	0	5
Humanities or Fine Arts course		5	0	0	5
					15
THIRD QUARTER					
[1]* ENG 1505	English Composition II	5	0	0	5
* MAT1504	College Algebra I	5	0	0	5
SPH 1300	Oral Communication	3	0	0	3
Elective					1
					14
FOURTH QUARTER					
* PTH 3507	Kinesiology I	3	4	0	5
* PTH 3405	Pathology I	4	0	0	4
* PTH 3605	Introduction to Patient Care Skills	2	8	0	6
					15
FIFTH QUARTER					
* PTH 3508	Kinesiology II	3	4	0	5
* PTH 3302	Pathology II	3	0	0	3
* PTH 3705	Patient Care Skills II	3	8	0	7
					15
SIXTH QUARTER					
* PTH 3801	Clinical Education I	0	0	24	8
* PTH 3509	Patient Care Skills III	3	4	0	5
* PTH 3202	Physical Therapy Seminar	2	0	0	2
					15
SEVENTH QUARTER					
* PTH 4324	Psychology of Adjustment	3	0	0	3
* PTH 4201	Community Health and Welfare	2	0	0	2
* PTH 3706	Patient Care Skills IV	3	8	0	7
					12
EIGHTH QUARTER					
* PTH 4606	Clinical Education II	0	0	18	6
* PTH 4607	Clinical Education III	0	0	18	6
					12

Total Credit Hours 113

* Prerequisite or corequisite required; check course description.

[1] ENG 3405 may be substituted with departmental approval.

Postal Service Technology (T141)

Official Program Description registered with the N.C. Department of Community Colleges:

The Postal Service Technology curriculum is designed to provide opportunities for advancement for present and future employees of the U.S. Postal Service.

Graduates of this program will be prepared to work in a variety of positions. The course of study includes postal organization, mail processing, employee and customer services, mail delivery and collection, problem analysis, related business/management subjects, and general education courses.

Degree Awarded

An Associate in Applied Science Degree – Postal Service Technology is awarded by the College upon completion of this program.

For More Information

The Postal Service Technology program is in the Business Administration Department. For more information, call the Program Director – 704/342-6646, weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached at 704/342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
BUS 2304	Business Law I	3	0	3
BUS 3300	Human Relations	3	0	3
[1]* ENG 1504	English Composition I	5	0	5
[1] FIN 3314	Business Mathematics I	3	0	3
PSM 3300	Postal Service History and Organization	3	0	3
Elective		3	0	3
				20

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SECOND QUARTER				
[1]* ENG3405	Technical English II	4	0	4
ECO 2304	Economics	3	0	3
[1] FIN 3315	Business Mathematics II	3	0	3
PSM 3301	Postal Service Labor Management	3	0	3
PSM 4320	Postal Employee Services	3	0	3
				16
THIRD QUARTER				
ACC 1604	Principles of Accounting I	5	2	6
* BUS 2305	Business Law II	3	0	3
* ECO 2305	Economics II	3	0	3
PSM 3304	Mail Processing I	3	0	3
				15
FOURTH QUARTER				
* ACC 1605	Principles of Accounting II	5	2	6
PSM 3305	Mail Processing II	3	0	3
PSM 4301	Postal Service (Support) Finance	3	0	3
SPH 1300	Oral Communications	3	0	3
PSM 4332	Postal Service Safety Training	3	0	3
				18
FIFTH QUARTER				
EDP 3310	Microcomputer Operations	3	0	3
EDP 5201	CRT Use in Business	3	0	3
MGT2314	Principles of Management	3	0	3
PSM 4321	Postal Window Training	3	0	3
PSM 4330	Postal Delivery and Collection	3	0	3
[2]	General Education Elective(s) Mathematics OR Natural Science	5	0	5
				19
SIXTH QUARTER				
EDP 3324	Advanced Microcomputer Operations	2	2	3
MGT4330	Supervision	3	0	3
PSM 4331	Postal Problem Analysis: Function Four Review	3	0	3
Elective		3	0	3
[3]	General Education Elective (Humanities OR Fine Arts)	3	0	3
				15

Total Credit Hours 103

* Prerequisite or corequisite required; check course description.

[1] MAT 1504, MAT 1505, MAT 1514, ENG 1305, ENG 1306 may be taken if student has met requirements.

[2] GENERAL EDUCATION ELECTIVES – Natural Sciences or Mathematics must have MAT, BIO, CHM, GEL, GEO, or PHY prefixes.

[3] GENERAL EDUCATION ELECTIVES – Humanities or Fine Arts must have ART, DRA, ENG, FRE, GER,HUM, MUS, PHI, or SPH prefixes.

Postal Service Technology Certificate (T141-A)

The certificate listed below can be earned in the Postal Service Technology program (T141).

For More Information

The Postal Service Technology Certificate program is in the Business Administration Department. For more information, call the Program Director – 704/342-6646, weekdays, 8 a.m.-4:30 p.m. Program Counselor can be reached at 704/342-6426 or 6229.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Postal Service Technology Certificate Specializing in Postal Service Operations (T141-A)

		HRS CLS /WK	HRS CLS /WK	HRS CLS /WK
PSM 3300	Postal Service History and Organization	3	0	3
PSM 3301	Postal Service Labor Management	3	0	3
PSM 4320	Postal Employee Services	3	0	3
PSM 3304	Mail Processing I	3	0	3
PSM 3305	Mail Processing II	3	0	3
PSM 4301	Postal Service (Support) Finance	3	0	3
PSM 4332	Postal Service Safety Training	3	0	3
PSM 4321	Postal Window Training	3	0	3
PSM 4330	Postal Delivery and Collection	3	0	3
PSM 4331	Postal Problem Analysis: Function Four Review	3	0	3

Total Credit Hours.....30

Real Estate (T127)

Official Program Description registered with the N.C. Department of Community Colleges:

The purposes of the Real Estate curriculum are to prepare the individual to enter the real estate industry, provide an educational program for persons directly involved in various phases of the real estate industry, and provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through a thorough introduction to real estate principles, practices, industry ethics, finance, law, appraisal techniques, and trends.

The curriculum will provide the opportunity for an individual to enter public or private employment in real estate areas such as sales, finance, development, market analysis, valuation, and property management. Advanced real estate job opportunities are available in areas such as brokerage, management, appraising, or consulting.

Degree/Certificates Awarded

The Associate in Applied Science Degree – Real Estate is awarded by the College upon completion of this program.

A Certificate of Completion will be awarded to students who successfully complete, with an A, B, or C grade and required attendance, the sales and broker prelicensing courses.

For More Information

The Real Estate program is in the Business Administration Department. For more information, call the Program Director – 704/342-6562. If there is no answer, leave a message on voice mail. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

- Placement tests for reading, English and mathematics are required in order to be placed in English (ENG) and mathematics (MAT) courses.

First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
BUS 1500	Introduction to Business	5	0	5
* ENG 1504	English Composition I	5	0	5
[1] FIN 3314	Business Mathematics I	3	0	3
RES 3601	Fundamentals of Real Estate (Sales Prelicensing)	6	0	6
				19
SECOND QUARTER				
ACC 1604	Principles of Accounting I	5	2	6
* ENG 3405	Technical English II	4	0	4
[1] FIN 3315	Business Mathematics II OR			
FIN 3330	Real Estate Arithmetic	3	0	3
RES 4301	Real Estate Law (Broker Prelicensing)	3	0	3
RES 4302	Real Estate Finance (Broker Prelicensing)	3	0	3
				19
THIRD QUARTER				
* ACC 1605	Principles of Accounting II OR			
ACC 3500	Small Business Accounting	5	2	6
BUS 3300	Human Relations	3	0	3
ECO 2304	Economics I	3	0	3
MKT3320	Fundamentals of Selling	3	0	3
RES 4303	Real Estate Brokerage Operations (Broker Prelicensing)	3	0	3
				18
FOURTH QUARTER				
* ECO 2305	Economics II	3	0	3
Humanities	Elective or Fine Arts (Choose from ART, ENG, HUM, MUS)	3	0	3
Natural Science	Elective OR Math (Choose from GEL 1604, GEO, MAT)	5	2	6
SPH 1300	Oral Communications	3	0	3
				15
FIFTH QUARTER				
BUS 2304	Business Law I	3	0	3
INS 4294	General Insurance Part I Introduction	2	0	2
MGT2314	Principles of Management	3	0	3
RES 4315	Governmental Land Use Controls	3	0	3
RES 4371	Real Estate Property Management	3	0	3
RES 4381	Residential Real Estate Appraisal I	3	0	3
				17
SIXTH QUARTER				
EDP 3310	Microcomputer Operations	2	2	3
RES 4311	Residential Real Estate Sales	3	0	3
RES 4385	Income Real Estate Appraisal I	3	0	3
RES 4391	Commercial and Industrial Real Estate	3	0	3
[2] Technical Elective		3	0	3
				15
SEVENTH QUARTER				
MGT 3303	Small Business Management	3	0	3
[2] Technical Electives		9	0	9
				12

Total Credit Hours 115

* Prerequisite or corequisite required; check course description.

[1] **Note:** MAT 1504, MAT1505, MAT 1514, MAT 1515, ENG 1505 are recommended for students planning to transfer to senior institutions.

[2] TECHNICAL ELECTIVES – Select 12 credit hours after consultation with a faculty advisor.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* BUS 2306	Business Law III	3	0	3
* BUS 3304	Business Statistics	3	0	3
* ECO 2306	Economics III	3	0	3
* INS 4396	General Insurance Part III – Fire and Casualty	3	0	3
* MKT4305	Advanced Selling Skills	3	0	3
* RES 4382	Residential Real Estate Appraisal II	3	0	3
* RES 4393	Real Estate Investment Analysis	3	0	3
* RES 4395	Commercial Real Estate Finance	3	0	3

Real Estate Appraisal (T224)

Official Course Description registered with the N.C. Department of Community Colleges:

The purpose of the Real Estate Appraisal curriculum is to provide the prelicensing and the pre-certification appraisal education requirements approved by the N.C. Real Estate Commission.

The courses required by the N.C. Real Estate Commission for prelicensing as a "State Licensed" appraiser are covered in this curriculum. These courses are Introduction to Real Estate Appraisal, Valuation Principles and Procedures, and Applied Residential Property Valuation.

The courses required by the N.C. Real Estate Commission for pre-certification as a "State Certified" appraiser are also provided. These courses are Introduction to Income Property Appraisal, Advanced Income Capitalization Procedures, and Applied Income Property Valuation.

Certificate Awarded

A Certificate in Real Estate Appraisal is awarded by the College upon completion of this program.

A Certificate of Completion is awarded by the Department to students who successfully complete each appraisal course with an A, B, or C grade and required attendance.

Note

A good background in mathematics is very important in this curriculum. It is recommended that a student have mastered competencies found in a basic algebra course before taking Advanced Income Capitalization Procedures.

For More Information

The Real Estate Appraisal program is in the Business Administration Department. For more information, call the Program Director – 704/342-6562. If there is no answer, leave a message on voice mail. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

First step to enroll:
Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ /WK
FIRST QUARTER				
* REA 4381		3	0	3
SECOND QUARTER				
* REA 4382		3	0	3
THIRD QUARTER				
* REA 4383		3	0	3

	HRS CLS /WK	HRS LAB /WK	HRS CR/ /WK
FORTH QUARTER			
* REA 4385	3	0	3
FIFTH QUARTER			
* REA 4386	3	0	3
SIXTH QUARTER			
* REA 4387	3	0	3

Total Credit Hours.....18

* Prerequisite required; check course description.

Respiratory Care Technology (T091)

Official Program Description registered with the N.C. Department of Community Colleges:

Respiratory Care Technology offers career education for individuals interested in becoming a respiratory therapy technician or respiratory therapist.

The respiratory therapist is qualified to assume primary responsibility for respiratory and cardiac care, including the supervision of technicians. The therapist makes patient care decisions concerning the use of life-support systems, oxygen therapy and other breathing treatments. They also perform heart and lung studies. Graduates of the therapist program receive an associate degree.

The technician performs tasks which include oxygen therapy, breathing treatments, and equipment maintenance. Graduates of the technician program receive a diploma.

Graduates of this program are eligible to apply for the entry-level examination, as well as the advanced practitioner examinations. These examinations are administered by the National Board for Respiratory Care.

Graduates may be employed in hospitals, clinics, nursing homes, education, industry, and home care.

Degree Awarded

The Associate in Applied Science Degree – Respiratory Care Technology is awarded by the College upon completion of this program.

Program Accreditation

The Respiratory Care Technology program at CPCC is accredited by the Committee on Allied Health Education and Accreditation.

Note

The program at CPCC is for Respiratory Therapist – not Technician, and begins each Fall Quarter, so early application is advisable.

Once enrolled, students must maintain a grade of C or better in all curriculum courses.

In addition to tuition and fees, there are other costs in this program including uniforms, lab coats, physical examination, stethoscope, and other required supplies.

For More Information

The Respiratory Care Technology program is in the Health Technologies Department. For more information, call the Program Director – 704/342-6274, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6500 or 6468.

Admissions

- A High School Diploma or equivalent is required.
- Completion of high school chemistry or the equivalent and at least a minimum score on the English and mathematics placement examinations are required for admission to the program.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
BIO 1504	Anatomy and Physiology I	3	4	0	5
[1]* MAT1504	College Algebra	5	0	0	5
* RTH 3601	Introduction to Respiratory Care	4	0	6	6
MED3304	Medical Terminology and Vocabulary I	3	0	0	3
					19
SECOND QUARTER					
BIO 1503	Microbiology	3	4	0	5
BIO 1505	Anatomy and Physiology II	3	4	0	5
* RTH 3202	Introduction to Pathology and Physical Diagnosis	2	0	0	2
* RTH 3305	Respiratory Pharmacology	3	0	0	3
* RTH 3602	Respiratory Care Procedures I	2	4	6	6
					21
THIRD QUARTER					
BIO 3404	Cardiopulmonary Anatomy and Physiology	3	2	0	4
* RTH 3304	Pathology and Physical Diagnosis	2	2	0	3
* RTH 3702	Respiratory Care Procedures II	2	4	9	7
PHY 3414	Physics of Respiratory Care	3	2	0	4
					18
FOURTH QUARTER					
* RTH 4814	Introduction to Emergency and Intensive Respiratory Care	2	2	15	8
* RTH 4415	Equipment for Continuous Ventilation	2	4	0	4
* CHM3501	Respiratory Care Chemistry	4	2	0	5
FIFTH QUARTER					
* ENG 1504	English Composition I	5	0	0	5
* RTH 4417	Neonatal and Pediatric Respiratory Care	2	0	6	4
* RTH 4724	Continuous Ventilation	3	2	9	7
[2] Elective					3
					19
SIXTH QUARTER					
[1]* ENG 3405	Technical English II	4	0	0	4
* RTH 4504	Pulmonary Functions I	2	0	9	5
* RTH 4505	Pulmonary Functions II	2	2	6	5
[2] Elective					3
					17
SEVENTH QUARTER					
* RTH 4606	Clinical Application I	2	0	12	6
* RTH 4607	Clinical Application II	2	0	12	6
SPH 1300	Oral Communications	3	0	0	3
[3] Elective					1
					16

Total Credit Hours 127

* Prerequisite or corequisite required; check course description.

[1] See program faculty before registering for this course.

[2] Three credit hours required in Behavioral or Social Science and three

credit hours required in Humanities or Fine Arts.

[3] One credit hour elective is required.

Secretary, General Office -- See General Office (T033)

Secretary, Legal (T031)

Official Program Description registered with the N.C. Department of Community Colleges:

The purposes of the Secretary – Legal curriculum are to prepare the individual to enter the legal secretarial profession through work in a lawyer's office in city, county, state or other government offices, to provide an educational program for individuals wanting education for upgrading (moving from one legal secretarial position to another legal secretarial position), and to provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through skill development in the areas of legal typewriting, shorthand transcription and business machines. Through these skills, the individuals will be able to perform legal, office-related activities and through the development of personal competencies and qualities will be provided the opportunity to enter the legal secretarial profession.

Degree Awarded

The Associate in Applied Science Degree – Legal Secretary is awarded by the College upon completion of this program.

Note

Credit by examination for some SEC courses can be arranged by contacting the Program Director.

A suggested sequence of required courses for full-time students is listed below.

For More Information

The Legal Secretary program is in the Computer and Office Information Systems Department. For more information, call the Program Director – 704/342-6781, or a Program Counselor – 704/342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

• A High School Diploma or equivalent is required

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS COOP /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3303	Keyboarding	1	4	0	3
ENG 3515	Essentials of Grammar	5	0	0	5
SEC 3301	Legal Terminology and Vocabulary	3	0	0	3
SEC 4324	Information Processing Concepts	3	0	0	3
BUS 3300	Human Relations I	3	0	0	3
Elective					1
					18
SECOND QUARTER					
* SEC 3405	Document Formatting I	3	2	0	4
* SEC 3414	Shorthand I	3	2	0	4
* ENG 1504	English Composition I	5	0	0	5
BUS 2304	Business Law I	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
SEC 3104	Electronic Calculators	0	2	0	1
					20
THIRD QUARTER					
* SEC 3415	Shorthand II	3	2	0	4
SEC 3305	Editing, Proofreading and Reference Skills	3	0	0	3
SEC 4370	Records Management	3	0	0	3
* SEC 4429	Word Processing I	3	2	0	4
ECO 3300	Introduction to Economics	3	0	0	3
SPH 2300	Voice and Diction	3	0	0	3
					20
FOURTH QUARTER					
* SEC 3406	Document Formatting II	3	2	0	4
* SEC 4448	Legal Shorthand	3	2	0	4
* SEC 4430	Word Processing II	3	2	0	4
FIN 3314	Business Mathematics I	3	0	0	3
LEX 3300	Case Analysis and Reasoning	3	0	0	3
					18
FIFTH QUARTER					
* SEC 4425	Machine Transcription	3	2	0	4
* SEC 4409	Legal Document Production	3	2	0	4
* SEC 4305	Business Communications	3	0	0	3
* SEC 4517	General Office Procedures	5	0	0	5
* SEC 4201	Secretarial Cooperative Experience 1	0	0	20	2
* Related Elective		3	0	0	3
					21
SIXTH QUARTER					
MGT4331	Administrative Office Management	3	0	0	3
ACC 1604	Principles of Accounting or				
ACC 3600	General Accounting	5	2	0	6
* SEC 4202	Secretarial Cooperative Experience II	0	0	20	2
[1] General Education Elective		3	0	0	3
[2] Related Elective		6	0	0	6
					20

Total Credit Hours 117

* Prerequisite or corequisite required; check course description.

[1] GENERAL EDUCATION ELECTIVES are to be chosen from ECO, ENG, PSY, SOC, or SPH prefixes.

[2] RELATED ELECTIVES are to be selected from the following:

- LEX 3310 North Carolina Legal Systems
- * LEX 3320 Evidence
- LEX 3306 Administrative Law
- LEX 3303 Legal Research I
- * LEX 3304 Legal Research II
- LEX 4300 Domestic Relations Law
- LEX 4321 Tort Law
- * LEX 4322 Corporate Law
- * LEX 4332 Trial Preparation and Procedures
- LEX 4313 Collections and Bankruptcy
- * LEX 4314 Wills, Trusts, and Probate

	LEX 4280	Legal Ethics
*	EDP 3215	Microcomputer Software - LOTUS 1-2-3
*	EDP 3324	Advanced Microcomputer Operations
*	EDP 3217	Microcomputer Software - Data Base
*	EDP 3335	Microcomputer Programming - MS/DOS

Social Service Associate (T107)

Official Program Description registered with the N.C. Department of Community Colleges:

The Social Service Associate curriculum trains paraprofessionals for direct service delivery work in one of the many social service areas. These social service areas include family and child assistance, rehabilitation, health services, medical assistance, youth services, mental health and assistance to the aging, blind, and developmentally-disabled.

Graduates will find employment with federal, state, county and local government social services agencies and programs and with private organizations that have social services assistance programs.

Degree Awarded

The Associate in Applied Science Degree – Social Service is awarded by the College upon completion of this program.

Program Accreditation

Social Service Associate and Human Services Associate courses at CPCC have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit.

Note

Clinical internships in a variety of community agencies enable students to gain specialized experience to parallel their classroom work.

The program requires completion of 105 quarter credit hours as follows: 54 credit hours of Major Courses, 29 credit hours of Related Courses, and 22 credit hours of General Education Courses.

A suggested course sequence list is available from a Program Counselor or the Program Director.

For More Information

The Social Service Associate program is in the Human Services Department. For more information, call the Program Director – 704/342-6729, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required
- After completing placement tests, students will then see a Program Counselor who will advise them before they see the Program Director. An interview with the Program Director is required for entry into the program.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
FIRST QUARTER						
	HSA 3501	Introduction to HSA	5	0	0	5
*	ENG 1504	English Composition I	5	0	0	5
	PSY 2504	General Psychology	5	0	0	5
	BI0 3301	Basic Health Science I	3	0	0	3
						18
SECOND QUARTER						
*	HSA 3502	Interpersonal Relationships	5	0	0	5
*	ENG 3405	Technical English	4	0	0	4
	SEC 3403	Keyboarding OR	1	4	0	3
	EDP 3310	Basic Microcomputer Operation	3	0	0	(3)
	BIO 3302	Basic Health Science II	3	0	0	3
	HED 1204	First Aid	1	2	0	2
						17
THIRD QUARTER						
	HSA 3340	Client Group Dynamics	3	0	0	3
*	HSA 3341	Interpersonal Relationships II	3	0	0	3
	SWK 4511	Introduction to Social Welfare	5	0	0	5
	SOC 2514	Introduction to Sociology	5	0	0	5
						16
FOURTH QUARTER						
*	SWK 3600	Community Organization and Casework Preparation OR				
*	SWK 4609	Caseload Management	3	0	9	6
	SWK 4505	Helping Relationship: Theory	5	0	0	5
	MED 3304	Medical Terminology I	3	0	0	3
	Elective		3	0	0	3
						17
FIFTH QUARTER						
*	SWK 3604	Helping Relationship: Technique OR	3	0	9	6
*	SWK 4524	Helping Interview I	2	0	9	(5)
	SOC 1500	Sociology of the Family	5	0	0	5
	SWK 3421	Helping and Behavioral Stress OR	4	0	0	4
	SWK 3202	Crisis Intervention and	2	0	0	(2)
	SWK 4103	Stress Management	1	0	0	(1)
	Elective in Humanities or Fine Arts		5	0	0	5
						20
SIXTH QUARTER						
*	SWK 3414	Helping Relationship: Advanced Technique	3	0	3	4
*	SWK 4508	Senior Internship	1	0	12	5
	HED 2301	Human Sexuality in Helping Skills	3	0	0	3
*	PSY 2514	Abnormal Psychology	5	0	0	5
						17

Total Credit Hours 108

* Prerequisite or corequisite required; check course description

Social Service Associate Certificate (T017-A)

Specialization Certificate

The certificate listed below can be earned in the Social Service Associate (T107) program.

For More Information

For more information, call the Program Director – 704/342-6729, weekdays, 8 a.m.-5 p.m. Counselors for this program can be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Social Service Associate Certificate with Specialization in Community Leadership (T107-A)

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ /WK
	HSA 3501	Introduction to Human Services	5	0	0	5
*	HSA 3502	Interpersonal Relationships I	5	0	0	5
*	HSA 3340	Client Group Dynamics	3	0	0	3
*	HSA 3341	Interpersonal Relationships II	3	0	0	3

Total Credit Hours.....16

* Prerequisite; check course description.

Surveying Technology (T125)

Official Course Description registered with the N.C. Department of Community Colleges:

This program is designed to provide training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, photogrammetry, mapping, and other areas of land description and measurements. Nearly all construction of buildings, bridges, dams, highways, airfields, and other engineered projects requires one or more types of surveying.

Students will be trained as technicians to work with skilled professionals as instrument men, party chiefs, surveying aides, highway surveyors, mappers, and in many other surveying activities. Graduates of this program will be prepared to pursue the requirements necessary to become a registered land surveyor.

Upon graduation, graduates may find employment in such positions as Surveying Technician, Mapper, Drafter, Surveying Party Chief, Construction Layout Technician, Deed Research Technician, Instrument Person, Land Surveying Technician, and Highway Surveying Technician.

Degree Awarded

The Associate in Applied Science Degree – Surveying Technology is awarded by the College upon completion of this program.

Note

Completion of this programs requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

The Surveying Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – 704/342-6881, or the Program Director – 704/342-6578, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent in required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First step to enroll:

Call the Welcome Center – 704/342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER					
	CIV 3101	Intro to Civil Engineering/ Surveying Technology	1	0	1
	CIV 3306	Construction Materials and Methods	2	3	3
	ARC 3334	Architectural Drafting I – Basic	1	6	3
	ARC 4200	Architectural Blueprint Reading and Specifications	1	3	2
*	ENG 1504	English Composition I	5	0	5
*	MAT 3507	Engineering Technology Math I	5	0	5
					19
SECOND QUARTER					
*	ENG 3405	Technical English II	4	0	4
*	MAT 3508	Engineering Technology Math II	5	0	5
*	PHY 1404	Physics I – Basic Mechanics	3	2	4
*	CIV 3407	Surveying I	2	6	4
					17
THIRD QUARTER					
*	MAT 3509	Engineering Technology Math III	5	0	5
*	CIV 4407	Surveying II – Route Surveying	2	6	4
*	PHY 1406	Physics III – Electricity and Magnetism	3	2	4
*	CIV 4300	Codes and Contracts	2	3	3
	EDP 3310	Microcomputer Operations	2	2	3
					19
FOURTH QUARTER					
*	CIV 3414	Statics and Strength of Materials – Basic	3	3	4
*	CIV 4408	Surveying III – Boundary Surveying	2	6	4
*	ARC 3314	Drafting I, Architectural Computer	1	6	3
	BUS 2304	Business Law I	3	0	3
[1]	Technical Elective				3
					17
FIFTH QUARTER					
*	CIV 4302	Plain Concrete and Asphalt	1	6	3
*	CIV 4320	Principles of Hydraulics	2	3	3
*	CIV 3317	Civil CAD: Site Planning	1	6	3
*	CIV 4414	Surveying IV – Advanced Surveying	3	3	4
[1]	Technical Elective				4
					17
SIXTH QUARTER					
*	CIV 4319	Soils Technology	2	3	3
*	CIV 4305	Construction Estimates	2	3	3
*	CIV 4315	Subdivision Planning and Design	2	3	3
*	CIV 4415	Surveying V – Topo Mapping	3	3	4
	Arts/Humanities Elective				3
					16
SEVENTH QUARTER					
*	CIV 4307	Construction Project Management	2	3	3
*	CIV 4314	Surveying VI – Construction and Site Surveying	2	3	3
	SPH 1300	Oral Communications	3	0	3
		Behavioral/Social Science Elective			3
	Free Elective				3
					15

Total Credit Hours 120

* Prerequisite or corequisite required; see course description.

[1] SUGGESTED TECHNICAL ELECTIVES:
* CIV 3415 Statics and Strength of Materials – Advanced
* CIV 4284 Cooperative Work Experience I
* CIV 4285 Cooperative Work Experience II
* CIV 4319 Soils Technology

* CIV 4425 Structures I
EDP 3405 Microcomputer Programming – Basic
* MAT4507 Engineering Technology Math IV
* PHY 1405 Physics II – Elastic and Thermal Properties of Matter

Traffic and Transportation (T034)

Official Program Description registered with the N.C. Department of Community Colleges:

The Traffic and Transportation curriculum is designed to provide an educational program in the techniques of state and federal laws and regulations applicable to traffic and transportation which would prepare the individual to enter such careers as dispatcher, claims clerk, rate clerk, operational clerk, dock supervisor and loading supervisor, and moving counselor.

Objectives: This curriculum is to develop knowledge and skills in the principles of organization and management in the traffic and transportation industry, the Interstate Commerce Act and other related traffic and transportation acts, the communication responsibilities of traffic and transportation and the role and influence of traffic and transportation on the economy.

Degree Awarded

The Associate in Applied Science Degree – Traffic and Transportation is awarded by the College upon completion of this program.

Note

A course sequence list is available from a Program Counselor.

For More Information

The Traffic and Transportation program is in the Business Administration Department. For more information, call the Program Director – 704/342-6591, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6426 or 6229.

Admissions

• A High School Diploma or equivalent is required.

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ /WK
FIRST QUARTER					
BUS 1500	Introduction to Business	5	0	0	5
BUS 2304	Business Law I	3	0	0	3
TRN 3300	Introduction to Transportation	3	0	0	3
FIN 3314	Business Mathematics I	3	0	0	3
* ENG 1504	English Composition I	5	0	0	5
					19
SECOND QUARTER					
* TRN 3320	Motor Fleet Safety Management	3	0	0	3
TRN 3360	Transportation Pricing	3	0	0	3
* FIN 3315	Business Mathematics II	3	0	0	3
* ENG 3405	Technical English II	4	0	0	4
' Technical Elective		3	0	0	3
					16
THIRD QUARTER					
MGT4330	Supervision	3	0	0	3
TRN 4332	Human Resource Management I	3	0	0	3
ACC 1604	Principles of Accounting I	5	2	0	6
BUS 3300	Human Relations I	3	0	0	3
' Technical Elective		3	0	0	3
* TRN 4200	Cooperative Education I	0	0	2	2
					20
FOURTH QUARTER					
MGT4356	Introduction to Materials Management	3	0	0	3
TRN 3351	Traffic Management	3	0	0	3
EDP 3310	Micro Computer Operations	2	2	0	3
ECO 2304	Economics I	3	0	0	3
' Technical Elective		3	0	0	3
					15
FIFTH QUARTER					
TRN 4351	Freight Claims	3	0	0	3
BUS 3304	Business Statistics I	3	0	0	3
EDP 3324	Advanced Microcomputer Operations	2	2	0	3
SPH 1301	Persuasive Speaking	3	0	0	3
ECO 2305	Economics II	3	0	0	3
' Technical Elective		3	0	0	3
					18
SIXTH QUARTER					
TRN 4356	Physical Distribution Management II	3	0	0	3
INS 3340	Principles of Risk and Insurance	1	4	0	3
SPH 1300	Oral Communications	1	0	0	3
MGT4337	Human Resource Management II	1	0	0	3
Elective		5	0	0	5
General Education Elective	MAT1504 OR MAT 3504 OR BIO 1500 OR BIO 1501	5	0	0	5
					22

Total Credit Hours 110

* Prerequisite or corequisite required; see course description.

' TECHNICAL ELECTIVES: After consultation with a faculty advisor, students are to select 10 hours from the Technical Electives below.

* BUS 2305 Business Law II
MKT2314 Principles of Management
MKT1304 Marketing I
MKT3320 Fundamentals of Selling
MKT4322 Purchasing
MKT4325 Sales Management
SSH 3504 Occupational Safety and Health I
TRN 4358 Physical Distribution Management II
TRN 4375 Import Transportation Management
TRN 4380 Export Transportation Management

Travel and Tourism Technology (T182)

Official Program Description registered with the N.C. Department of Community Colleges:

The Travel and Tourism Technology curriculum is designed to train travel planners who are capable of arranging all aspects of travel for clients. Arrangements vary from simple airline reservations and ticketing to complex individual tours including all arrangements: transportation, accommodations and sightseeing. Modes of transportation used may be air, rail, steamship, motor coach or rental car. Since this is a business-related field, the curriculum includes courses to provide a practical under-

standing of the day-to-day operation of a travel firm.

Areas of study include the travel and tourism industry, reservations and ticketing, marketing and sales, data processing, accounting and office management.

Graduates of this program will be trained primarily for employment by travel agencies. They may also be employed by rental car companies, airlines, tour operators, hotel/motel reservation systems, or by ship, train, or bus companies.

Degree Awarded

The Associate in Applied Science Degree – Travel and Tourism Technology is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, the estimated cost of tools and uniforms for this program is $125.

For More Information

The Travel and Tourism Technology program is in the Hospitality Technology Department. For more information, call the Program Director – 704/342-6770, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

• A High School Diploma or equivalent is required

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER					
SEC 3303	Keyboarding	1	4	0	3
* ENG 1504	English Composition I	5	0	0	5
TAT 3300	Introduction to the Travel Industry	3	0	0	3
FIN 3314	Business Mathematics I	3	0	0	3
					14
SECOND QUARTER					
* ENG 3405	Technical English II	4	0	0	4
FSO 3504	Food Preparation I	2	9	0	5
HRM3300	Introduction to Hotel/ Restaurant Management	3	0	0	3
INT 3300	Introduction to International Business	3	0	0	3
					15
THIRD QUARTER					
ACC 1604	Principles of Accounting	5	2	0	6
BUS 2304	Business Law I	3	0	0	3
GPY 1500	Introduction to World Geography	5	0	0	5
TAT 3200	Travel and Tourism Etiquette	2	0	0	2
					16
FOURTH QUARTER					
TAT 4304	World Destinations and Resorts I	3	0	0	3
HRM 3301	Legal Aspects of Hospitality	3	0	0	3
TAT 4307	A History of Beverages	3	0	0	3
[1] General Education Elective		3	0	0	3
					12
FIFTH QUARTER					
TAT 4501	Hospitality Computer I	3	6	0	5
* TAT 4305	World Destinations and Resorts II	3	0	0	3
TAT 3301	Agency Operations	3	0	0	3
SPH 2304	Public Speaking	3	0	0	3
BUS 3300	Human Relations	3	0	0	3
					17
SIXTH QUARTER					
TAT 4306	Group Tour Arranging/ Meeting Planning	3	0	0	3
* TAT 4502	Hospitality Computer II	3	0	6	5
ECO 3300	Introduction to Economics	3	0	0	3
* HRM4414	Restaurant Service Management	2	0	6	4
					15
SEVENTH QUARTER					
* TAT 4503	Hospitality Computer III	3	0	6	5
MKT 4321	Advertising	3	0	0	3
MKT 3320	Fundamentals of Selling	3	0	0	3
HED 1204	Standard First Aid	1	2	0	2
PHY 1500	Introduction to Astronomy	4	2	0	5
					13
EIGHTH QUARTER					
TAT 4301	Tourism Marketing	3	0	0	3
* MKT 4305	Advanced Selling Skills	3	0	0	3
MGT 2314	Principles of Management	3	0	0	3
TAT 4308	Practicum I	1	0	20	3
					12

Total Credit Hours 119

* Prerequisite or corequisite required; see course description.

[1] GENERAL EDUCATION ELECTIVE – FRE, GER, or SPA.

Welding (V050)

Official Program Description registered with the N.C. Department of Community Colleges:

The Welding curriculum gives students sound understanding of the principles, methods, techniques and skills essential for successful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure, to form a permanent bond between intersection metals.

Welding offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production jobs, job shops and many others.

Diploma Awarded

A Diploma in Welding is awarded by the College upon completion of this program.

Note

Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area, if this has not already been done.

For More Information

The Welding program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6709, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER				
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5401	Basic Calculations for Welders	4	0	4
WLD 5450	Gas Metal Arc Welding	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
* WLD 5241	Flux Cored Arc Welding	1	3	2
MEC 5214	Applied Metallurgy I	1	3	2
				18
SECOND QUARTER				
WLD 5204	Blueprint Reading for Welders II	1	2	2
WLD 5421	Shielded Metal Arc Welding I	2	6	4
WLD 5431	Gas Tungsten Arc Welding I	2	6	4
HSA 5200	Human Relations	2	0	2
* MEC 5215	Applied Metallurgy II	1	3	2
PHY 5304	Applied Physics I	2	2	3
				17
THIRD QUARTER				
* WLD 5240	Introductory Pipe Welding	1	3	2
WLD 5355	Practices I Commercial and Industrial	1	6	3
WLD 5422	Shielded Metal Arc Welding II	2	6	4
PHY 5305	Applied Physics II	2	2	3
COM 5500	Communications Skills	5	0	5
				17
FOURTH QUARTER				
* WLD 5267	Certification Practice	0	6	2
* WLD 5268	Certification Testing	2	0	2
* WLD 5432	Gas Tungsten Arc Welding II	2	6	4
WLD 5356	Commercial and Industrial Practices II	1	6	3
WLD 5404	Pipe Welding	2	6	4
! Related Elective				2
				17

Total Credit Hours.....69

*Prerequisite or corequisite required; check course description.

! RELATED ELECTIVES				
AHR 5301	Basic Electricity	3	0	3
HED 1204	Standard First Aid	1	2	2
MAC 5201	Machine Shop Practices	1	3	2
* WLD 5205	Welding Qualification Test	0	6	2
* WLD 5260	Welding Co-Op	0	20	2

Welding Certificates (V050-A. B. C. D. E)

Specialization Certificates

The certificates listed below can be earned in the Welding program (V050).

For More Information

The Welding program is in the Technical Careers Department. For more information, call the Program Director – 704/342-6709, or the Department office – 704/342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached at 704/342-6550 or 6059.

Admissions

First step to enroll:

Call the Welcome Center – 704/342-6719.

Welding Certificate With a Specialization in Gas Tungsten Arc Welding (V050-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5355	Commercial and Industrial Practices I	1	6	3
WLD 5356	Commercial and Industrial Practices II	1	6	3
WLD 5431	Gas Tungsten Arc Welding I	2	6	4
WLD 5432	Gas Tungsten Arc Welding II	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
WLD 5401	Basic Calculations for Welders	4	0	4

Total Credit Hours.....24

*Prerequisite or corequisite required; check course description.

Welding Certificate With a Specialization in Basic Welding Applications (V050-B)

WLD 5401	Basic Calculations for Welders	4	0	4
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5204	Blueprint Reading for Welders II	1	2	2
WLD 5450	Gas Metal Arc Welding	2	6	4
WLD 5431	Gas Tungsten Arc Welding I	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
WLD 5421	Shielded Metal Arc Welding I	2	6	4

Total Credit Hours.....24

*Prerequisite or corequisite required; check course description.

Welding Certificate With a Specialization in Gas Metal Arc Welding (V050-C)

WLD 5401	Basic Calculations for Welders	4	0	4
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5355	Commercial and Industrial Practices I	1	6	3
*WLD 5241	Flux Cored Arc Welding	1	3	2
WLD 5450	Gas Metal Arc Welding	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4

Total Credit Hours.....19

*Prerequisite or corequisite required; check course description.

Welding Certificate With a Specialization in Maintenance Welding (V050-D)

	WLD 5355	Commercial and Industrial Practices I	1	6	3
	WLD 5431	Gas Tungsten Arc Welding I	2	6	4
	WLD 5432	Gas Tungsten Arc Welding II	2	6	4
*	WLD 5240	Introductory Pipe Welding	1	3	2
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
	WLD 5421	Shielded Metal Arc Welding I	2	6	4
	WLD 5422	Shielded Metal Arc Welding II	1	6	4

Total Credit Hours.....25

*Prerequisite or corequisite required; check course description.

Welding Certificate With a Specialization in Shielded Metal Arc Welding (V050-E)

				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
	WLD	5203	Blueprint Reading for Welders I	1	2	2
*	WLD	5267	Certification Practice	0	6	2
*	WLD	5268	Certification Testing	2	0	2
*	WLD	5240	Introductory Pipe Welding	1	3	2
	WLD	5433	Oxyacetylene Welding and Cutting	2	6	4
	WLD	5404	Pipe Welding (elective)	2	6	4
	WLD	5421	Shielded Metal Arc Welding I	2	6	4
	WLD	5422	Shielded Metal Arc Welding II	2	6	4
	WLD	5205	Welding Qualification Test (elective)	0	6	2

Total Credit Hours.....26

*Prerequisite or corequisite required; check course description.

..... Associate in General Education Degree.....

Associate in General Education Degree (G020)

Program Description
This program is designed for students who are not interested in a complete career-oriented program, or who do not intend to transfer to another college, or who want to take courses to meet a special personal or vocational objective.

Degree Awarded
The Associate in General Education Degree is awarded by the College upon completion of this program.

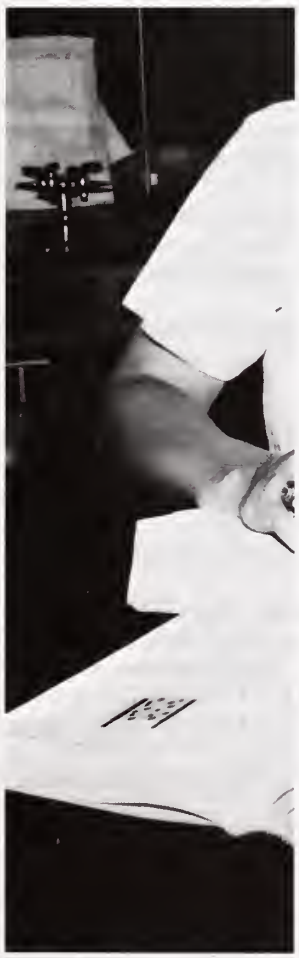
Requirements:
- Completion of at least four courses from three of the following disciplines (one of which must be English): English, Social Science, Science or Mathematics, Humanities, Performing Arts or Fine Arts;
- A maximum of 24 quarter credit hours in 9000 courses may be used;
- Completion of 32 additional quarter credit hours of college credit courses if the student has earned another degree;
- A minimum of 32 quarter credit hours earned at CPCC, 16 of which must be the final credit hours prior to graduation.

For More Information
For more information, contact the Program Counselor - 704/342-6426, weekdays, 8 a.m.-5 p.m.

Admissions
- Official copies of high school and all other college/university transcripts must be on file in the student's folder in the Student Records Office

First step to enroll:
Call the Welcome Center - 704/342-6719.

College Transfer Program



College Transfer Program

Associate in Arts (A.A.)

Associate in Fine Arts Degree (A.F.A.)

Associate in Science (A.S.)

Note: Some Business, Health, and Technology Programs also transfer.

Program Description

This program offers courses comparable to the freshman- and sophomore-level at four-year colleges and universities. Many students begin their college work at CPCC and then transfer to a senior institution for their last two years.

Degrees Awarded

The Associate in Arts Degree, the Associate in Fine Arts Degree, or the Associate in Science Degree is awarded by the College upon completion of program requirements.

Requirements

- Completion of a minimum of 96 quarter credit hours, including required 1000- and 2000-level courses;
- A minimum of 32 quarter credit hours must be earned at CPCC, 16 of them must be the final credit hours prior to graduation;
- Completion of a minimum of 32 additional quarter credit hours if the student previously earned an Associate in General Education Degree.

Note: Transfer requirements vary among four-year colleges and universities, so students need to obtain a catalog from the college or university they plan to attend. Using this catalog, the course sequence at CPCC is then planned by the student and the Program Counselor to meet the requirements of that four-year institution.

Some Business, Health, and Technology programs have transfer agreements with senior institutions. Students in these programs should consult with their Faculty Advisor or Program Counselor about transferability.

For More Information

Program Counselors for the College Transfer program can be reached by calling 704/342-6443, 6862, or 5922.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine enrollment in English and mathematics classes.

First step to enroll:

Call the Welcome Center - 704/342-6719.

Associate in Arts Degree - AA. (C011)

The Associate in Arts Degree is awarded for liberal arts study. Students are eligible for the degree upon completion of 96 quarter hours, including the minimum in each area indicated below. A suggested sequence of required courses is available from a College Transfer Program Counselor.

Degree Requirements	Credit Hours
English (ENG 1504 and ENG 1505 is required of all students)	10
Behavioral and Social Science	12
Health and Physical Education	3
Humanities	14
Biology or Physical Science or Mathematics Choose from at least two of these three fields. At least 10 hours must be taken in a Laboratory Science, either biological or physical.	20
Electives (1000- and 2000-level courses) A maximum of 6 Cooperative Education work experience credits may be earned, where applicable, with approval of the Faculty Co-Op Coordinator and the Co-Op staff.	37

Total credit hours 96

Associate in Fine Arts Degree - A.F.A. (C011)

The Associate in Fine Arts Degree is awarded in art, dance, or music. Students are eligible for the A.F.A. in Art or Dance upon completion of a minimum of 96 quarter hours; the A.F.A. in Music requires 102 quarter hours. A suggested sequence of required courses is available from the Visual and Performing Arts Department or from a College Transfer Program Counselor.

Degree Requirements	Credit Hours
English (ENG 1504 and ENG 1505 is required of all students)	10
Behavioral and Social Science	10
Health and Physical Education	3
Humanities (Six hours must be taken outside the major area of concentration)	12
Biology or Physical Science or Mathematics	10
Electives A.F.A. in Art - 51 hours (see below) A.F.A. in Dance - 51 hours (see below) A.F.A. in Music - 57 hours (see below)	

Major Area of Concentration: ART (C003)

Students in this area are required to take:
ART 1310, ART 1311, ART 1312 - History of Art I, II, III
ART 1404, 1405, 1406 - Drawing I, II, III
ART 1424, ART 1425, ART 1426 - Design I, II, III
Twelve hours in specific major area of concentration.
Electives (1000- and 2000-level courses)

Total credit hours 96

Major Area of Concentration: DANCE (C038)

Students in this are required to take:
BIO 1504, BIO 1505 - Human Anatomy and Physiology I, II
DAN 1384, DAN 1385, DAN 1385 - Dance History I, II, III
DAN 2184, DAN 2185, DAN 2186 - Intermediate Modern Dance I, II, III (6 credits)
DAN 2194, DAN 2195, DAN 2196 - Intermediate Ballet I, II, III (6 credits)
DAN 2284, DAN 2285, DAN 2286 - Choreography I, II, III
DAN 2388 - Dance Production (9 credits)
MUS 1320, MUS 1321 - Music for Dancers I, II
Dance Technique Electives
Electives (1000- and 2000-level courses)

Total credit hours 96

Major Area of Concentration: MUSIC (C015)

Students in this area are required to take:
MUS 1154, MUS 1155, MUS 1156 - Class Piano I, II, III
MUS 1404, MUS 1405, MUS 1406 - Music Theory I, II, III

MUS 1100, MUS 1107, MUS 1117, MUS 1127, MUS 1128 or MUS 2158 - Ensemble (6 credits)
MUS 2404, MUS 2405, MUS 2406 - History and Literature of Music I, II, III
MUS 2407, MUS 2408, MUS 2409 - Advanced Music Theory (9 credits)
Applied Music (9 credits)
Advanced Applied Music (9 credits)
Electives (1000- and 2000-level courses)

Total credit hours 102

Associate in Science Degree - A.S. (C050)

The Associate in Science Degree is awarded for study leading to majors in sciences, mathematics, engineering, and computer science. Students are eligible for the degree upon completion of 96 hours, including the minimum in each of the areas below.

Degree Requirements	Credit Hours
English (ENG 1504, ENG 1505 required of all students)	10
Behavioral and Social Science	9
Health and Physical Education	3
Humanities	6
Mathematics*	20
Science**	24
Electives (1000- and 2000-level courses)	24

A maximum of 6 Cooperative Education work experiencecredits may be earned, where applicable, with approvalof the Faculty Co-Op Coordinator and the Co-Op staff.

Total credit hours 96

* Must be MAT 1514 and higher.

** Must include three-quarter sequence.

Note: The pre-engineering program has been approved by the Subcommittee on Engineering Transfer for transfer to the engineering programs at North Carolina Agricultural and Technical State University, North Carolina State University, and the University of North Carolina at Charlotte.

College Transfer Courses

The courses listed below satisfy degree requirements in designated areas.

Behavioral and Social Science
(12 hours for A.A.; 10 hours for A.F.A; 9 hours for A.S.)
ANT 1502 General Anthropology
ECO 2304 Economics I (Macro)
ECO 2305 Economics II (Micro)
ECO 2306 Economics III
GPY 1500 Introduction to World Geography
HIS 1500 World Civilization I
HIS 1501 World Civilization II
HIS 1502 American History I
HIS 1503 American History II
HIS 1504 Recent American History
HIS 1505 The Modern World
HIS 1510 American Civil War
HIS 1520 Black History I
HIS 1521 Black History II
HIS 2104-2504 Special Topics in History
HIS 2500 North Carolina History
POL 1502 American Politics
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2500 State and Urban Politics
POL 2501 Political Ideologies
POL 2104-2504 Special Topics in Political Science
PSY 1500 Psychology of Adjustment
PYS 2136-2536 Special Problems in Psychology
PSY 2500 Educational Psychology
PSY 2505 Human Development
PSY 2504 General Psychology
PSY 2514 Abnormal Psychology
SOC 1301 Group Interaction
SOC 1500 Sociology of the Family
SOC 1505 Sociology of Religion
SOC 2514 Introduction to Sociology
SOC 2515 Social Problems
SOC 2524 Special Problems of Sociology

Health and Physical Education
(3 hours for A.A., A.F.A., or A.S.)
HED 1111 Special Health Problems
HPE 1153 Cardiopulmonary Resuscitation (CPR) Instructor
HED 1201 Special Health Problems
HED 1203 Cardiopulmonary Resuscitation (CPR)
HED 1204 Standard First Aid
HED 1208 Personal Fitness Analysis
HED 1300 Introduction to Health Education
HED 1301 Special Health Problems
HED 1302 Sexual Development of Children
HED 2301 Human Sexuality
HPE 1100 Individual Activity
HPE 1104 Fencing - Beginning
HPE 1105 Fencing - Intermediate
HPE 1107 Self Defense and Physical Conditioning - Beginning
HPE 1108 Self Defense and Physical Conditioning - Intermediate
HPE 1109 Self Defense and Physical Conditioning - Advanced
HPE 1112 Water Aerobics
HPE 1113 Volleyball and Badminton
HPE 1114 Snow Skiing - Beginning
HPE 1115 Snow Skiing - Intermediate
HPE 1116 Snow Skiing - Advanced
HPE 1123 Physical Fitness - Beginning
HPE 1124 Physical Fitness - Intermediate
HPE 1125 Physical Fitness - Advanced
HPE 1126 Social Dance - Beginning
HPE 1127 Social Dance - Advanced Beginner
HPE 1128 Social Dance - Intermediate
HPE 1132 Weight Training I
HPE 1140 Self Protection for Women
HPE 1145 Golf - Intermediate
HPE 1147 Tennis - Beginning
HPE 1148 Tennis - Intermediate
HPE 1149 Tennis - Advanced
HPE 1153 Weight Training II
HPE 1164 Yoga - Beginning
HPE 1165 Yoga - Intermediate
HPE 1166 Yoga - Advanced
HPE 1170 Aerobics
HPE 1174 Rock Climbing

HPE 1175 Techniques of Lead Climbing
HPE 1176 Introduction to Backpacking
HPE 1177 Wilderness Skills
HPE 1180 Orienteering
HPE 1182 Cross Country Skiing
HPE 1184 Swimming - Beginning
HPE 1185 Swimming - Advanced Beginner
HPE 1186 Swimming - Intermediate
HPE 1187 Swimming - "Swimmer"
HPE 1190 Introduction to Golf I
HPE 1191 Introduction to Golf II
HPE 1192 Aerobics - Advanced
HPE 1193 Slimnastics - Beginning
HPE 1194 Slimnastics - Intermediate
HPE 1195 Slimnastics - Advanced
HPE 1196 Gymnastics - Beginning
HPE 1197 Gymnastics - Intermediate
HPE 1198 Bowling - Beginning
HPE 1200 Creative Arts in Recreation
HPE 1203 Water Safety Instructor
HPE 1215 Lifeguard Training
HPE 1404 Introduction to Recreation
HPE 1405 Team Sp[orts and Games in Recreation
HPE 2100 Bicycling
HPE 2112 Canoeing - Basic
HPE 2113 Canoeing - Rivers
HPE 2114 Canoeing - Basic Whitewater
HPE 2115 Introduction to Kayaking
HPE 2116 Whitewater Kayaking
HPE 2200 Sports Officiating
HPE 2314 Lifetime Activities
HPE 2325 Introduction toi Outdoor Recreation
HPE 2434 Recreation and Special Populations

Humanities
(14 hours for A.A., 12 hours for A.F.A., 6 hours for A.S.)
ART 1300 Introduction to Art I
ART 1301 Introduction to Art II
ART 1310 History of Art I
ART 1311 History of Art II
ART 1312 History of Art III
DAN 1384 Dance History I
DAN 1385 Dance History II
DAN 1386 Dance History III
DRA 1500 Introduction to Drama
DRA 2414 Film Criticism
ENG 1333 Science Fiction
ENG 1334 The Novel
ENG 1335 Classic Fairy Tales
ENG 2314 Contemporary Fiction
ENG 2324 The Bible as Literature
ENG 2504 British Literature, 1300-1800
ENG 2505 British Literature, 1800-Present
ENG 2510 World Literature to 1800
ENG 2514 American Literature, 1800-1900
ENG 2515 Modern American Literature
FRE 2600 Intermediate French I (May be used as Humanities requirement if both FRE 2600 and FRE 2601 are completed.)
FRE 2601 Intermediate French II
GER 2600 Intermediate German I (May be used as Humanities requirement if both GER 2600 and GER 2601 are completed.)
GER 2601 Intermediate German II
HUM 1300 Ascent of Man
HUM 1301 Writers, Revolutionaries, and Big Brother
HUM 1319 Mythology
HUM 1329 Russian Culture
HUM 1500 Humanities - Classical to Medieval
HUM 1501 Humanities - Renaissance to Present
HUM 2320 Special Topics
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
MUS 1404 Music Theory I
MUS 1405 Music Theory II
MUS 1406 Music Theory III
PHI 1500 Introduction to Philosophy
PHI 2500 Logic
SPA 2600 Intermediate Spanish I (May be used toward Humanities requirement if both SPA 2600 and SPA 2601 are completed.)
SPA 2601 Intermediate Spanish II
SPH 1301 Persuasive Speaking
SPH 2300 Voice and Diction
SPH 2302 Voice and Diction II
SPH 2304 Public Speaking

Laboratory Sciences
Choose from Biological Sciences or Physical Sciences courses below to meet requirements for the A.A., A.F.A., or A.A.

Biological Sciences
BIO 1500 Biological Science
BIO 1501 General Botany
BIO 1502 General Zoology
BIO 1503 Microbiology
BIO 1504 Human Anatomy and Physiology I
BIO 1505 Human Anatomy and Physiology II
BIO 2134-2534 Selected Topics in Biology
BIO 2500 Introduction to Entomology
BIO 2501 Ornithology

Physical Sciences
CHM 1500 Introductory Chemistry
CHM 1501 Chemistry for the Health Professions I
CHM 1502 Chemistry for the Health Professions II
CHM 1504 General Chemistry I
CHM 1505 General Chemistry II
CHM 1506 General Chemistry III
CHM 2124-2524 Special Problems
CHM 2414 Introductory Organic Chemistry
CHM 2604 Quantitative Chemical Analysis
CHM 2614 Organic Chemistry I
CHM 2615 Organic Chemistry II
GEL 1604 Physical Geology
GEL 2605 Historical Geology
GEO 1614 Introduction to Physical Geography
PHY 1404 Physics I: Basic Mechanics
PHY 1405 Physics II: Elastic and Thermal Properties of Matter
PHY 1406 Physics III: Electricity and Magnetism
PHY 1407 Physics IV: Modern Physics
PHY 1500 Introduction to Astronomy
PHY 2504 General Physics I: Mechanics
PHY 2505 General Physics II: Molecular Physics and Waves
PHY 2506 General Physics III: Electricity and Magnetism
PHY 2507 General Physics IV: Optics and Modern Physics

Mathematics
Choose courses from the following list to meet degree requirements for the A.A., A.F.A., or A.S.

MAT 1504 College Algebra I
MAT 1505 College Algebra II
MAT 1512 Calculus for Business and Social Science
MAT 1514 Precalculus Mathematics I
MAT 1515 Precalculus Mathematics II
MAT 1524 Analytic Geometry and Calculus I
MAT 2504 Analytic Geometry and Calculus II
MAT 2505 Analytic Geometry and Calculus III
MAT 2506 Analytic Geometry and Calculus IV
MAT 2508 Ordinary Differential Equations
MAT 2514 Statistics I
MAT 2515 Statistics II
MAT 2590 Individual Study

College Transfer Courses

The list of courses below is arranged alphabetically by subject.

Anthropology
ANT 1502 General Anthropology

Art
ART 1200 Fiber Dyes
ART 1300 Introduction to Art I
ART 1301 Introduction to Art II
ART 1304 Printmaking I
ART 1305 Printmaking II
ART 1310 History of Art I
ART 1311 History of Art II
ART 1312 History of Art III
ART 1323 Basic Woodcarving
ART 1327 Sculpture I
ART 1328 Sculpture II
ART 1329 Sculpture III
ART 1331 Cartooning and Caricaturing
ART 1332 Photographing Nature
ART 1334 Painting I
ART 1335 Painting II
ART 1336 Painting III
ART 1337 Portrait Painting I
ART 1338 Portrait Painting II
ART 1339 Portrait Painting III
ART 1340 Stained Glass I
ART 1341 Stained Glass II
ART 1344 Weaving I
ART 1345 Weaving II
ART 1346 Weaving III
ART 1347 Weaving IV
ART 1348 Watercolor I
ART 1349 Watercolor II
ART 1356 Furniture Design I
ART 1357 Furniture Design II
ART 1358 Furniture Design III
ART 1360 Raku
ART 1364 Ceramics I
ART 1365 Ceramics II
ART 1366 Ceramics III
ART 1374 Jewelry I
ART 1375 Jewelry II
ART 1376 Jewelry III
ART 1384 Basic Camera Techniques
ART 1385 Photo Lab Processes I
ART 1386 Photo Lab Processes II
ART 1389 Color Printing I
ART 1390 Color Printing II
ART 1392 Advanced Camera Techniques
ART 1404 General Drawing I
ART 1405 General Drawing II
ART 1406 General Drawing III
ART 1407 Figure Drawing
ART 1424 Design I
ART 1425 Design II
ART 1426 Design III
ART 1434 Airbrush
ART 2322 Surface Design for Textiles

Biology
BIO 1500 Biological Science
BIO 1501 General Botany
BIO 1502 General Zoology
BIO 1503 Microbiology
BIO 1504 Human Anatomy and Physiology I
BIO 1505 Human Anatomy and Physiology II
BIO 2134-2534 Selected Topics in Biology
BIO 2300 Genetics
BIO 2304 Human Nutrition
BIO 2308 Nutrition and the Young Child
BIO 2500 Introduction to Entomology
BIO 2501 Ornithology
GEN 1140 Field Biology
GEN 1141 Introduction to Nature Photography
GEN 1144 Ecology by Canoe
GEN 1148 Field Identification of Insects
GEN 1149 Field Ornithology

Careers
GEN 1201 Career Exploration

Chemistry
CHM 1500 Introduction to Chemistry
CHM 1501 Chemistry for Health Professions I
CHM 1502 Chemistry for Health Professions II
CHM 1504 General Chemistry
CHM 1505 General Chemistry II
CHM 1506 General Chemistry III
CHM 2124-2524 Special Problems
CHM 2414 Introduction to Organic Chemistry
CHM 2604 Quantitative Chemical Analysis
CHM 2614 Organic Chemistry I
CHM 2615 Organic Chemistry II

Computers
EDP 1404 Computer Concepts and FORTRAN Programming I
EDP 1405 FORTRAN Programming II
EDP 1407 Computer Concepts and PASCAL Programming I
EDP 1408 PASCAL Programming II
EDP 1500 Computer Literacy
EDP 2306 Computer Programming I (Business)
EDP 2307 Computer Programming II (Business)
EDP 2525 Introduction to Business Computing

Dance
DAN 1154 Tap Dance I
DAN 1155 Tap Dance II
DAN 1156 Tap Dance III
DAN 1157 Jazz Dance I
DAN 1158 Jazz Dance II
DAN 1159 Jazz Dance III
DAN 1184 Modern Dance I
DAN 1185 Modern Dance II

DAN 1186 Modern Dance III
DAN 1194 Ballet I
DAN 1195 Ballet II
DAN 1196 Ballet III
DAN 1197 Ballet Pointe Work I
DAN 1280 Dance for Musical Theatre
DAN 1290 Dance Sources
DAN 1384 Dance History I
DAN 1385 Dance History II
DAN 1386 Dance History III
DAN 2184 Intermediate Modern Dance I
DAN 2185 Intermediate Modern Dance II
DAN 2186 Intermediate Modern Dance III
DAN 2194 Intermediate Ballet I
DAN 2195 Intermediate Ballet II
DAN 2196 Intermediate Ballet III
DAN 2284 Choreography I
DAN 2285 Choreography II
DAN 2286 Choreography III
DAN 2384 Dance Seminar
DAN 2388 Dance Production I

Drama
DRA 1301 Stagecraft
DRA 1303 Acting
DRA 1304 Advanced Acting
DRA 1310 Play Production - One Acts
DRA 1311 Play Production - Comedy/Drama
DRA 1312 Play Production - Musical
DRA 1320 Teleplay Production - Drama
DRA 1321 Teleplay Production - Situation Comedy
DRA 1322 Teleplay Production - Action/Adventure
DRA 1323 Teleplay Production - Variety
DRA 1500 Introduction to Drama
DRA 1501 Introduction to Broadcasting
DRA 2204 Special Problems in Drama
DRA 2303 Acting for the Camera
DRA 2306 Advanced Acting for the Camera
DRA 2311 Advanced Play Production - Comedy/Drama
DRA 2312 Advanced Play Production - Musical
DRA 2414 Film Criticism

Education
EDU 2500 Introduction to Education

English
ENG 1333 Science Fiction
ENG 1334 The Novel
ENG 1335 Classic Fairy Tales
ENG 2314 Contemporary Fiction
ENG 2324 The Bible as Literature
ENG 2504 British Literature, 1300-1800
ENG 2505 British Literature, 1800-Present
ENG 2410 World Literature to 1800
ENG 2514 American Literature, 1800-1900
ENG 2515 Modern American Literature

French
FRE 2600 Intermediate French I
FRE 2601 Intermediate French II

Geography
GEO 1614 Introduction to Physical Geography
GPY 1500 Introduction to World Geography

Geology
GEL 1604 Physical Geology
GEL 2605 Historical Geology

German
GER 2600 Intermediate German I
GER 2601 Intermediate German II

Health
HED 1111 Special Health Problems
HED 1153 Cardiopulmonary Resuscitation (CPR) Instructor
HED 1201 Special Health Problems
HED 1203 Cardiopulmonary Resuscitation (CPR)
HED 1204 Standard First Aid
HED 1208 Personal Fitness Analysis
HED 1300 Introduction to Health Education
HED 1301 Special Health Problems
HED 1302 Sexual Development of Children
HED 2301 Human Sexuality

History
HIS 1500 World Civilization I
HIS 1501 World Civilization II
HIS 1502 American History I
HIS 1503 American History II
HIS 1504 Recent American History
HIS 1505 The Modern World
HIS 1510 American Civil War
HIS 1520 Black History I
HIS 1521 Black History II
HIS 2104-2504 Special Topics in History
HIS 2500 North Carolina History

Humanities
HUM 1300 Ascent of Man
HUM 1301 Writers, Revolutionaries, and Big Brother
HUM 1319 Mythology
HUM 1329 Russian Culture
HUM 1500 Humanities - Classical to Medieval
HUM 1501 Humanities - Renaissance to Present
HUM 2320 Special Topics

Mathematics
MAT 1504 College Algebra I
MAT 1505 College Algebra II
MAT 1512 Calculus for Business and Social Science
MAT 1514 Precalculus Mathematics I
MAT 1515 Precalculus Mathematics II
MAT 1524 Analytic Geometry and Calculus I
MAT 2504 Analytic Geometry and Calculus II
MAT 2505 Analytic Geometry and Calculus III
MAT 2506 Analytic Geometry and Calculus IV
MAT 2508 Ordinary Differential Equations
MAT 2514 Statistics I
MAT 2515 Statistics II
MAT 2590 Individual Study

Music
MUS 1100 Vocal Ensemble
MUS 1102 Jazz Vocal
MUS 1104 Class Voice I
MUS 1105 Class Voice II
MUS 1107 Chamber Choir
MUS 1117 Wind Ensemble
MUS 1122 Fiddle - Bluegrass and Old-Time

HUS 1123 Jazz Ensemble
MUS 1127 Orchestra
MUS 1128 Concert Band
MUS 1132 Introduction to Sight Singing and Ear Training
MUS 1133 Banjo - Old-Time Music
MUS 1136 Clawhammer Banjo II
MUS 1139 Old-Time Music "Jam"
MUS 1151 Improv Rhythm and Instrumental - Beginning
MUS 1152 Improv Rhythm Section - Intermediate
MUS 1153 Improv Instrumental - Intermediate
MUS 1154 Class Piano I
MUS 1155 Class Piano II
MUS 1156 Class Piano III
MUS 1157 Intermediate Piano I
MUS 1158 Intermediate Piano II
MUS 1160 Classical and Flamenco Guitar
MUS 1164 Guitar
MUS 1165 Intermediate Guitar
MUS 1166 Folk Music Guitar I
MUS 1167 Folk Music Guitar II
MUS 1171 Chords I
MUS 1172 Chords II
MUS 1177 Appalachian Dulcimer
MUS 1189 Autoharp
MUS 1304 Children's Music I
MUS 1305 Children's Music II
MUS 1310 Introduction to Music Theory
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
MUS 1320 Music for Dancers I
MUS 1321 Music for Dancers II
MUS 1324 Recording Studio Techniques I
MUS 1325 Recording Studio Techniques II
MUS 1326 Recording Studio Techniques III
MUS 1327 Recording Studio Techniques IV
MUS 1350 History of Rock and Roll
MUS 1404 Music Theory I
MUS 1405 Music Theory II
MUS 1406 Music Theory III
MUS 2000 Seminar in Music I
MUS 2100 Seminar in Music II
MUS 2154 Advanced Class Piano I
MUS 2155 Advanced Class Piano II
MUS 2156 Advanced Class Piano III
MUS 2158 Piano Ensemble
MUS 2169 Jazz Guitar
MUS 2200 Seminar in Music II
MUS 2201 Business of Music
MUS 2202 Songwriting
MUS 2204 Special Problems in Music
MUS 2257 Jazz Piano I
MUS 2258 Jazz Piano II
MUS 2300 Seminar in Music III
MUS 2404 History and Literature of Music I
MUS 2405 History and Literature of Music II
MUS 2406 History and Literature of Music III
MUS 2407 Advanced Music Theory I
MUS 2408 Advanced Music Theory II
MUS 2409 Advanced Music Theory III

Music, Applied
MUA 1100 (1 credit), MUA 1200 (2 credits), MUA 1300 (3 credits) Piano
MUA 1101 (1), MUA 1201 (2), MUA 1301 (3) Organ
MUA 1102 (1), MUA 1202 (2), MUA 1203 (3) Voice
MUA 1103 (1), MUA 1203 (2), MUA 1304 (3) Harpiscord
MUA 1104 (1), MUA 1204 (2), MUA 1304 (3) Harp
MUA 1105 (1), MUA 1205 (2), MUA 1305 (3) Violin
MUA 1106 (1), MUA 1206 (2), MUA 1306 (3) Guitar
MUA 1107 (1), MUA 1207 (2), MUA 1307 (3) Percussion
MUA 1108 (1), MUA 1208 (2), MUA 1308 (3) Flute
MUA 1109 (1), MUA 1209 (2), MUA 1309 (3) Trumpet
MUA 1110 (1), MUA 1210 (2), MUA 1310 (3) Trombone
MUS 1111 (1), MUA 1211 (2), MUA 1311 (3) String Bass
MUS 1112 (1), MUA 1212 (2), MUA 1312 (3) Clarinet
MUA 1113 (1), MUA 1213 (2), MUA 1313 (3) Saxophone
MUA 2100 (1), MUA 2200 (2), MUA 2300 (3) Piano
MUA 2101 (1), MUA 2201 (2), MUA 2301 (3) Organ
MUA 2102 (1), MUA 2202 (2), MUA 2302 (3) Voice
MUA 2103 (1), MUA 2203 (2), MUA 2303 (3) Harpsicord
MUA 2104 (1), MUA 2204 (2), MUA 2304 (3) Harp
MUA 2105 (1), MUA 2205 (2), MUA 2305 (3) Violin
MUA 2106 (1), MUA 2206 (2), MUA 2306 (3) Guitar
MUA 2107 (1), MUA 2207 (2), MUS 2307 (3) Percussion
MUA 2108 (1), MUA 2208 (2), MUA 2308 (3) Foute
MUA 2109 (1), MUA 2209 (2), MUA 2309 (3) Trumpet
MUA 2110 (1), MUA 2209 (2), MUA 2310 (3) Trombone
MUA 2111 (1), MUA 2212 (2), MUA 2311 (3) String Bass
MUA 2112 (1), MUA 2213 (2), MUA 2312 (3) Clarinet
MUS 2113 (1), MUA 2213 (2), MUA 2313 (3) Saxaphone

Philosophy
PHI 1500 Introduction to Philosophy
PHI 2500 Logic

Physical Education
HPE 1100 Individual Activity
HPE 1104 Fencing - Beginning
HPE 1105 Fencing - Intermediate
HPE 1106 Fencing - Advanced
HPE 1107 Self Defense and Physical Conditioning - Beginning
HPE 1108 Self Defense and Physical Conditioning - Intermediate
HPE 1109 Self Defense and Physical Conditioning - Advanced
HPE 1112 Water Aerobics
HPE 1113 Volleyball and Badminton
HPE 1114 Snow Skiing - Beginning
HPE 1115 Snow Skiing - Intermediate
HPE 1116 Snow Skiing - Advanced
HPE 1123 Physical Fitness - Beginning
HPE 1124 Physical Fitness - Intermediate
HPE 1125 Physical Fitness - Advanced
HPE 1126 Social Dance - Beginning
HPE 1127 Social Dance - Advanced Beginner
HPE 1128 Social Dance - Intermediate
HPE 1130 American and English Country Dancing
HPE 1132 Weight Training I
HPE 1140 Self Protection for Women
HPE 1145 Golf Intermediate
HPE 1147 Tennis - Beginning
HPE 1148 Tennis - Intermediate
HPE 1149 Tennis - Advanced
HPE 1150 Exercise for the Handicapped
HPE 1153 Weight Training II
HPE 1164 Yoga - Beginning
HPE 1165 Yoga - Intermediate
HPE 1166 Yoga - Advanced
HPE 1170 Aerobics
HPE 1174 Rock Climbing
HPE 1175 Techniques of Lead Climbing
HPE 1176 Introduction to Backpacking

HPE 1177 Wilderness Skills
HPE 1180 Orienteering
HPE 1182 Cross Country Skiing
HPE 1184 Swimming - Beginning
HPE 1185 Swimming - Advanced Beginner
HPE 1186 Swimming - Intermediate
HPE 1187 Swimming - "Swimmer"
HPE 1190 Introduction to Golf I
HPE 1191 Introduction to Golf II
HPE 1192 Aerobics - Advanced
HPE 1193 Slimnastics - Beginning
HPE 1194 Slimnastics - Intermediate
HPE 1195 Slimnastics - Advanced
HPE 1196 Gymnastics - Beginning
HPE 1197 Gymnastics - Intermediate
HPE 1198 Bowling - Beginning
HPE 1200 Creative Arts in Recreation
HPE 1203 Water Safety Instructor
HPE 1215 Lifeguard Training
HPE 1404 Introduction to Recreation
HPE 1405 Team Sports and Games in Recreation
HPE 2100 Bicycling
HPE 2112 Canoeing - Basic
HPE 2113 Canoeing - Rivers
HPE 2114 Canoeing - Basic Whitewater
HPE 2115 Introduction to Kayaking
HPE 2116 Whitewater Kayaking
HPE 2200 Sports Officiating
HPE 2314 Lifetime Activities
HPE 2325 Introduction to Outdoor Recreation
HPE 2434 Recreation and Special Populations

Physics
PHY 1404 Physics I - Basic Mechanics
PHY 1405 Physics II - Elastic and Thermal Property of Matter
PHY 1406 Physics III - Electricity and Magnetism
PHY 1407 Physics IV - Modern Physics
PHY 1500 Introduction to Astronomy
PHY 2504 General Physics I - Mechanics
PHY 2505 General Physics II - Fluid Mechanics, Heat and

Waves
PHY 2506 General Physics III - Electricity and Magnetism
PHY 2507 General Physics IV - Optics and Modern Physics

Political Science
POL 1502 American Politics
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2104-2504 Special Topics in Political Science
POL 2500 State and Local Politics
POL 2501 Political Ideologies

Psychology
PSY 1500 Psychology of Adjustment
PSY 2136-2536 Special Problems in Psychology
PSY 2500 Educational Psychology
PSY 2504 General Psychology
PSY 2505 Human Development
PSY 2514 Abnormal Psychology

Sociology
SOC 1301 Group Interaction
SOC 1500 Sociology of the Family
SOC 1505 Sociology of Religion
SOC 2514 Introduction to Sociology
SOC 2515 Social Problems
SOC 2524 Special Problems of Sociology

Spanish
SPA 2600 Intermediate Spanish
SPA 2601 Intermediate Spanish

Speech
SPH 1300 Oral Communications
SPH 1301 Persuasive Speaking
SPH 2101 Parliamentary Procedure
SPH 2300 Voice and Diction I
SPH 2302 Voice and Diction II - Oral Interpretation
SPH 2304 Public Speaking

College-Level Course Descriptions

ABE – Adult Basic Education. See page 43.

ABL – Adult Basic Literary Education. See page 43.

ACC – Accounting

ACC 1604 Principles of Accounting I: Upon completion of this study of basic accounting principles and procedures, students should be able to complete the accounting cycle for both service and merchandising enterprises, including the preparation of formal financial statements for the sole proprietorship. In addition, students should have an understanding of specialized systems such as special journals and the voucher system; be able to prepare a bank reconciliation; and properly account for notes receivable, accounts receivable, and merchandise inventories. (5-2) 6

***ACC 1605 Principles of Accounting II:** In this continuing study of basic accounting principles, the emphasis is on corporate accounting. Upon completion of this course, students should understand and be able to account for the following: stock, dividends, bonds, notes, and payroll. Students should also be able to compute depreciation using currently acceptable methods; prepare entries to record the disposal of plant assets; account for manufacturing costs; and prepare statements of retained earnings, stockholders' equity, cash flows, and cost of goods manufactured.
*Prerequisite: ACC 1604. (5-2) 6

***ACC 2626 Intermediate Accounting I:** Upon completion of this course, students should be able to explain the development of accounting standards; define and apply basic accounting assumptions and principles; explain the accounting cycle and prepare necessary adjusting and closing entries; prepare an income statement, balance sheet, and a retained earnings statement; compute and interpret financial ratios; account for various types of accounting changes and error corrections; account for cash and receivables; and apply currently acceptable methods of inventory costing and valuation.
*Prerequisite: ACC 1605. (5-2) 6

***ACC 2627 Intermediate Accounting II:** Upon completion of this continuing study of intermediate accounting, students should be able to account properly for plant and intangible assets, long-term debt, short-term investments, stockholders' equity, and leases. In addition, students should be able to prepare a statement of cash flows and use present value concepts to solve various types of investment problems.
*Prerequisite: ACC 2626. (5-2) 6

ACC 3500 Small Business Accounting: Upon completion of this course, students should be able to describe the different types of business enterprise; describe the basic accounting cycle; record business transactions with an emphasis on the cash basis of accounting; prepare and analyze the basic financial statements; establish, control, and reconcile a bank account; calculate payrolls and keep the appropriate payroll records; complete a variety of government reports; describe inventory controls and compute inventory values; and identify license and regulatory requirements for various small business activities. (5-0) 5

ACC 3600 General Accounting: Upon completion of this study of basic accounting principles, students should be able to analyze, journalize, and post transactions for service and merchandising organizations; complete end-of-period financial statements; prepare a bank reconciliation; and properly account for payrolls and petty cash funds. (5-2) 6

***ACC 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as full-time employees.
*Prerequisite: Permission of Co-Op staff and Department. (0-20) 2

***ACC 4285 Cooperative Work Experience II:** A continuation of ACC 4284, this course further refines the students' skills. Upon successful completion of this course, they should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as full-time employees.
*Prerequisite: Permission of Co-Op Staff and Department. (0-20) 2

***ACC 4308 International Accounting:** Upon completion of this course, students should be able to describe accounting systems used in different countries; describe the impact different currencies and methods have on identifying, recording, and interpreting financial information; recognize the need for setting international accounting and auditing standards; describe practices used to account for differing rates of inflation and other price changes; give the reasons currency exchange rates vary and the methods of setting and selecting a transfer price; describe the major types of taxes to which international organizations are exposed; and explain U.S. tax adjustments for foreign taxation.
*Prerequisite: ACC 1605, INT 3307. (3-0) 3

***ACC 4404 Auditing:** Upon completion of this course, students will have a basic understanding of the theories and practices of auditing, and the generally accepted auditing standards and rules of professional conduct and legal liability. In addition, students should be able to compare and contrast the external auditor's view with that of the internal auditor; and explain and apply internal controls, and audit evidence and working papers. Students will draw upon their communication skills as they participate daily in class and present oral and written reports.
*Prerequisite: ACC 2627. (3-2) 4

***ACC 4414 Microcomputer Accounting - General Ledger:** Upon completion of this course, students should be able to use the microcomputer to record transactions in the

general ledger system; maintain the general ledger; open and maintain subsidiary debtor and creditor files; enter adjusting and closing entries; enter sales and purchases; prepare billings; and account for inventory using an appropriate module. In addition, students should be able to obtain necessary reports and printouts from a computerized integrated system.
*Prerequisites: ACC 1604, EDP 3310. (2-4) 4

***ACC 4415 Microcomputer Accounting - Spreadsheets:** Students entering this course must have a working knowledge of Lotus 1-2-3, including macros. Upon completion of this course, they should be able to use advanced Lotus commands to create templates for various accounting applications. These applications include the following: completing the accounting cycle for a small business (preparation of a ten-column work sheet, income statement, statement of owner's equity, balance sheet, adjusting entries, closing entries, post-closing trial balance, and reversing entries); statement of cash flows (direct and indirect methods); financial statement analysis (horizontal analysis, vertical analysis, and ratio analysis); inventory methods (gross profit method and retail method); payroll records (payroll register, withholding tax tables, and earnings records); and business plans.
*Prerequisites: ACC 1605, EDP 3215. (2-4) 4

***ACC 4425 Taxes - Business and Fiduciary:** Upon completion of this course, students should be able to find, interpret, and apply the relevant Federal laws governing business and fiduciary income taxes. Topics include tax depreciation, accounting periods and methods, corporations, partnerships, S corporations, estates and trusts, and gifts. Students should be able to complete various IRS forms pertaining to the topics covered in the course.
*Prerequisite: ACC 1605. (3-2) 4

ACC 4434 Taxes - Individual: Upon completion of this course, students should be able to find, interpret, and apply the relevant Federal laws governing individual income taxes. Topics include filing status, exemptions for dependents, gross income, capital gains and losses, deductions and the computation of tax. Students should be able to complete various IRS forms pertaining to the topics covered in the course. (3-2) 4

***ACC 4444 Cost Accounting:** Upon completion of this course, students should be able to account for production costs, including materials, labor, and factory burden; understand and use job order and process order costing systems; record the flow of costs using entries and postings; prepare a cost of sales statement; prepare a cost of production report using average costing and FIFO; and prepare flexible factory overhead budgets.
*Prerequisite: ACC 1605. (3-2) 4

***ACC 4447 Advanced Accounting:** Upon completion of this course, students should be able to solve a wide variety of problems illustrating advanced application of accounting principles and procedures. Topics include partnership accounting, including partnership formation and liquidation, and distribution of partnership profits and losses; home office and branch accounting; mergers and consolidations; and preparation of consolidated working papers and consolidated financial statements.
*Prerequisite: ACC 2627. (3-2) 4

ACC 5404 Accounting Practices I - AIB: This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to describe the content and purposes of a balance sheet and income statement; compare the accrual basis and cash basis of accounting; explain the accounting cycle and prepare all required journals, entries, and adjustments; outline the basic features of internal control; identify the basic assumptions and principles of accounting; describe the effects of inflation on conventional financial statements; and define partnerships and explain their primary characteristics.
Note: This course will not substitute for ACC 1604. (4-0) 4

***ACC 5405 Accounting Practices II - AIB:** This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to contrast the advantages and disadvantages of the corporate form of organization; explain the primary features of bonds, and prepare journal entries to account for them; describe the uses and limitations of consolidated financial statements; list the major sources and uses of funds; use comparative financial statements to analyze and appraise the financial position of a firm; discuss the concept of a standard cost analysis system, and define capital budgeting decisions. This course will not substitute for ACC 1605.
*Prerequisite: ACC 5404. (4-0) 4

ADV – Commercial Art/Advertising Design

***ADV 1300 Photography for Advertising:** This is a course in view camera techniques, specifically as they apply to commercial art and commercial photography. Students will learn to use the view camera to produce professional quality photographs under studio lighting conditions, primarily working with still life and product subjects. In addition, students will develop advanced black-and-white lab skills, allowing them to produce a group of photographs suitable for portfolio presentation. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385. (1-4) 3

***ADV 3401 Illustration I:** Upon completion of this course, students should understand the role of the illustrator in the commercial art/advertising industry, and should be able to identify different types of illustrations and the medium used. Students will concept and produce preliminary layouts and finished illustrations in black-and-white, as well as color, in a variety of art media. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426. (2-4) 4

***ADV 3402 Illustration II:** Upon completion of this course, students should be able to demonstrate a variety of illustrations ranging from editorial to storybook. Students should be able to produce more complex concepts, layouts, and finished illustrations involving interior settings, landscapes and the human figure. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 3401. (2-4) 4

***ADV 3414 Computer Assisted Design:** Upon completion of this course, students should be able to use microcomputers with associated hardware and software to create full-color graphics for a variety of visual communications. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, or Departmental consent. (2-4) 4

***ADV 4284 Cooperative Work Experience:** Upon completion of this course, students should have applied the skills learned in the advertising design courses to actual working situations in the advertising/design business.
*Prerequisites: ADV 4414, ADV 4415, ADV 4424, ADV 4425. (0-20) 2

***ADV 4414 Advertising Production I:** Upon completion of this course, students should be able to demonstrate an understanding of modern commercial printing processes; properly use a photostatic camera and process camera; process film negatives and positives; make high-quality mechanical art boards for one-color and multi-color line art, and prepare color separation overlays. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 4454. (2-4) 4

***ADV 4415 Advertising Production II:** Upon completion of this course, students should be able to identify and describe types of halftones; identify and describe various types of contact screens used in halftone photography; make and process film and diffusion-transfer halftones; correctly use a contact frame to make prints and negatives; make white and colored acetate proofs on an exposure unit; make combination flats by correctly stripping line and halftone film negatives and positives. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4414. (2-4) 4

***ADV 4416 Advertising Production III:** Upon completion of this course, students should be able to complete combination mechanicals involving line and halftone art, surprints and drop-outs; describe various methods of folding, binding, and finishing booklets and brochures; describe the relationship between printing, paper, and ink. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4415. (2-4) 4

***ADV 4417 Advertising Production IV:** Upon completion of this course, students should have produced and executed solutions to problems in concept, layout, mechanical art and camera-ready art. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4416. (2-4) 4

***ADV 4424 Advertising Studio I:** Upon completion of this course, students should be able to analyze and evaluate noteworthy advertising, both past and current; produce a variety of ads and graphic design projects which reflect research, creative thinking, and good use of design and typography. They should also be able to demonstrate proficiency with various art media, with special emphasis on concepting with markers. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 4454. (2-4) 4

***ADV 4425 Advertising Studio II:** Upon completion of this course, students should be able to produce layouts and dummy comprehensives for a variety of complex advertising and graphic design problems. They should be able to design a corporate image system (logo) with special emphasis on paper selection, color, the use of special printing effects, and client presentation. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4424. (2-4) 4

***ADV 4426 Advertising Studio III:** Upon completion of this course, students should be able to produce ad/graphic design layouts and comprehensives for a variety of clients to include a self-promotional package with special emphasis on marketing, verbal analysis, and sales presentation. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4425. (2-4) 4

***ADV 4427 Advertising Studio IV:** Upon completion of this course, students should be able to demonstrate effectively all of the elements and guidelines explored in previous studio (such as concept, format, type, color) and apply these to a series of advertising/graphic design problems. Students should also be able to demonstrate an understanding of printing and to produce an advertising campaign that demonstrates research, analysis, imagination, and effective use of art materials and equipment from the stages of concept through the finished comprehensive level. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4426. (2-4) 4

***ADV 4436 Advertising Thesis:** Upon completion of this course, students should be able to refine and produce a portfolio of work to a professional level of execution. Students should also be able to design and produce a resume for use in interviews, as well as to develop and show interpersonal skills suitable for the professional world. Students will need to purchase additional supplies for this course.
*Prerequisites: ADV 4416, ADV 4426. (2-4) 4

***ADV 4454 Typography and Lettering I:** Upon completion of this course, students should be able to render letterforms from a free-style poster and calligraphic form to more finished and specific typestyles, using a variety of media; and to understand vocabulary and basic methods of typesetting. Spacing guidelines between characters and words will be explored, as well as the potential of design with letterforms. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1404, ART 1424. (2-4) 4

***ADV 4455 Typography and Lettering II:** Upon completion of this course, students should be able to use type as a design and communications element. Formats involving consideration of headline and text type, along with type specifying, will be a main focus. Through practical problems, students will continue to identify and execute specific typestyles and examine and experiment with the visual impact and legibility of the printed word in advertising. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4454. (2-4) 4

AHR – Air Conditioning, Heating and Refrigeration

Note: The Program Director may waive prerequisites/ corequisites for students with appropriate field experience.

***AHR 4304 Introduction to Psychrometrics:** Upon completion of this course, students should be able to describe the basic properties of air; describe the changes in volume and pressure with temperature; describe dew point temperature; describe humidity ratio, sensible heat, latent heat and their relationship with each other; determine sensible heat ratios, mixed air temperatures and enthalpy values; and solve simple problems using the psychrometric chart.
*Prerequisite: Completion of first year AHR courses. (3-0) 3

***AHR 4325 Air Conditioning, Heating and Refrigeration Drawing and Sketching:** Upon completion of this course, students should be able to identify the typical symbols used on the drawings of air conditioning and refrigeration system plans; free-hand sketch simple plans showing equipment; produce orthographic projection drawings of simple equipment and fittings; draw a simple plan of a heating and air conditioning system; and organize the required information needed for a complete plan of a heating and air conditioning design.
*Prerequisite: Completion of first year AHR courses. (1-4) 3

***AHR 4361 Residential Air Distribution and Balance:** Upon completion of this course, students should be able to demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system; design each of the four basic duct systems used in residences; design a return system for residences; estimate blower capacity; estimate and measure friction loss; and size an air distribution system for a residence correctly.
*Prerequisite: Completion of first year AHR courses. (2-2) 3

***AHR 4372 Hydronic Distribution Systems Design and Balance:** Upon completion of this course, students should be able to select boiler and other components for a complete system utilizing charts, tables, and catalog information; design commonly-used hydronic systems and size pipe by accepted methods; and determine water temperatures and quantities to meet calculated load conditions.
*Prerequisite: Completion of first year AHR courses. (3-0) 3

***AHR 4451 Commercial Refrigeration System Design:** Upon completion of this course, students should be able to estimate the cooling load requirements for any common commercial refrigeration application; select proper equipment and controls to meet load requirements; and design and size a refrigeration piping system including piping accessories and controls.
*Prerequisite: Completion of first year AHR courses. (4-0) 4

***AHR 4452 Residential Air Conditioning Systems Design:** Upon completion of this course, students should be able to estimate the heating and/or cooling needs of a residence; select the proper size of heating and/or cooling equipment required to meet the estimated needs; determine air quantities on a room-by-room basis; select room air outlets and returns; and size duct work for simple systems.
*Prerequisite: Completion of first year AHR courses. (3-2) 4

***AHR 4453 Commercial Air Conditioning Systems Design:** Upon completion of this course, students should be able to estimate the heating and/or cooling requirements of a commercial-type structure; choose the proper size of heating and/or cooling equipment to meet these requirements; determine air mixture conditions entering and leaving a cooling coil; use psychrometric chart to determine conditions of mixed air flow; determine sensible and latent heat loads of air quantities; and determine quantities and mixture conditions based upon calculated loads.
*Prerequisite: Completion of first year AHR courses. (3-2) 4

***AHR 4462 Commercial Air Distribution and Balance:** Upon completion of this course, students should be able to describe air and its behavior in a commercial air distribution system; describe the types and classes of fans and their applications; use fan charts to select fans and analyze air systems; and discuss basic air distribution systems including duct sizing methods and proper selection of air outlets and returns.
*Prerequisite: Completion of first year AHR courses. (3-2) 4

***AHR 4463 Control Systems:** Upon completion of this course, students should be able to interpret symbols on a control schematic diagram; draw a control schematic diagram; compare various control systems and select the one best suited for a specific application; prepare a control diagram for a refrigeration system; properly assemble the components for an operating control system; test and analyze control circuits; and adjust various controls in a system.
*Prerequisite: Completion of first year AHR courses. (3-2) 4

***AHR 4471 Installation and Service Problems:** Upon completion of this course, students should be able to use a variety of test instruments; estimate capacity requirements of various components and equipment; select proper location for various components; examine various systems and solve service problems using a variety of shop and field equipment; test and repair lab units; evaluate installation requirements; compare piping techniques; and select system accessories.
*Prerequisite: Seventh quarter standing in Air Conditioning, Heating and Refrigeration Technology program. (2-6) 4

***AHR 5204 Wiring Diagrams and Troubleshooting for A/C Systems:** Upon completion of this course, students should be able to identify the more commonly-used control components, their symbols, and describe their function in the control system; read wiring diagrams; and troubleshoot and replace controls in a control system.
*Prerequisite: AHR 5314. (1-3) 2

***AHR 5205 In Place Co-Op I:** Upon completion of this course, students should be able to apply, in the AHR industry, the skills learned in the Air Conditioning, Heating and Refrigeration (AHR) classroom and lab. Students may take this class in the place of AHR 5333 or AHR 5230.
*Prerequisite: Completion of two quarters in the AHR program. (0-20) 2

***AHR 5206 In Place Co-Op II:** Upon completion of this course, students should be able to apply, in the AHR industry, the skills learned in the Air Conditioning, Heating and Refrigeration (AHR) classroom and lab. Students may take this class in place of AHR 5333 or AHR 5230.
*Prerequisite: Completion of two quarters in the AHR program. (0-20) 2

***AHR 5224 A/C, Heating and Refrigeration Blueprint Reading:** Upon completion of this course, students should be able to interpret a simple residential blueprint; use plans, schedules and tables; and describe use of notes, lines, projections, and dimensioning procedures.
*Prerequisite: AHR 5301. (1-2) 2

***AHR 5230 Basic Electronics for Air Conditioning, Heating, and Refrigeration:** Upon completion of this course, students should be able to identify and explain the operation of various electronic components; describe procedures used to test these components; and explain how to use the oscilloscope to make basic measurements.
*Prerequisite: AHR 5314. (2-0) 2

AHR 5301 Basic Electricity: Upon completion of this course, students should be able to discuss electrical terms; identify electrical symbols; apply Ohm's Law; draw wiring diagrams of series and parallel circuits; describe magnetism as it applies to electricity; discuss the fundamentals of electrical current generation; and describe the function of simple electrical controls as they are used in air conditioning and refrigeration systems. (3-0) 3

AHR 5312 Shop Practices: Upon completion of this course, students should be able to select the correct tubing for refrigerant use; bend tubing properly; flare and swage tubing; use various solders and techniques in making a series of soldered connections; construct a small piping system; use a gauge manifold; and examine a tubing or piping system for leaks utilizing at least three leak detection methods. (2-3) 3

***AHR 5313 Refrigeration Service Principles:** Upon completion of this course, students should be able to use the gauge manifold properly; analyze several operating refrigeration systems and measure the degree of efficiency of each; inspect, remove, and re-install various sub-assemblies of the system; examine all components and replace them; determine faulty system components; and test entire system and place into operation.
*Corequisites: AHR 5411, AHR 5312, AHR 5301. (2-3) 3

***AHR 5314 Automatic Controls:** Upon completion of this course, students should be able to understand and use electrical measuring instruments; identify and describe the function and operation of basic control devices; install and wire these basic controls into a control circuit; select the proper type and size of wire for each application; and read basic pictorial wiring diagrams.
*Prerequisite: AHR 5301. (2-3) 3

***AHR 5321 Commercial Refrigeration Installation:** Upon completion of this course, students should be able to describe various types and applications of commercial refrigeration installations; compare various defrost methods; select correct safety and operating controls for a given application; construct a refrigerant piping system; charge the system with proper amount of refrigerant and test for leaks; and start up system.
*Prerequisites: AHR 5313, AHR 5301, AHR 5411, AHR 5312. (2-3) 3

***AHR 5322 Commercial Refrigeration Service:** Upon completion of this course, students should be able to compare various commercial refrigeration systems; use necessary tools and apply service techniques taught in this course; test for and repair refrigerant leaks; analyze a system malfunction; choose and install correct replacement component(s); test for proper operation of entire system; use specific equipment to dehydrate and evacuate system; install correct refrigerant charge; start system; and evaluate system operation.
*Prerequisites: AHR 5301, AHR 5313, AHR 5312. (2-3) 3

***AHR 5323 Oil Burners:** Upon completion of this course, students should be able to differentiate between the various types of oil burners; test and evaluate high pressure type burners; assemble a high pressure oil burner; interpret an electrical diagram for an oil burner assembly; prepare the oil burner for testing; and measure combustion efficiency.
*Prerequisites: AHR 5301, AHR 5312. (2-3) 3

***AHR 5333 Liquid Heat - One-Pipe and Two-Pipe Systems:** Upon completion of this course, students should be able to identify various types of heating units commonly used with one-pipe and two-pipe hydronic systems; sketch the basic systems commonly used in these systems; determine water quantities and temperature drops; select the essential accessories for hydronic systems; size pipes and select pumps; identify the kinds of boilers used; describe the basic requirements of the N.C. State Code as related to residential hydronic systems; and size steam piping for one-pipe steam systems.
*Prerequisites: AHR 5401, AHR 5312. (2-3) 3

***AHR 5341 Gas Heat:** Upon completion of this course, students should be able to differentiate between the various types of gas furnaces; describe operating and safety controls; design a gas piping system properly; test vent and gas piping for leaks and proper operation; dismantle entire furnace, evaluate its condition, repair or replace faulty components, and reassemble the unit; start up the completed installation; describe the safety codes; and measure combustion efficiency.
*Prerequisites: AHR 5204, AHR 5314, AHR 5312. (2-3) 3

***AHR 5342 Electric Heat:** Upon completion of this course, students should be able to calculate the heat loss in wattage on a room-to-room basis for a structure; select the most appropriate type of system for a particular application; choose the correct controls for the system selected; design a simple system; assemble all components and install them; inspect and test systems and components for safe and proper operation; solve problems with system components; estimate approximate annual cost of operation; and measure efficiency, voltage and wattage or current draw of a system.
*Prerequisite: AHR 5314. (2-3) 3

***AHR 5346 Air Conditioning and Heating Service Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in air conditioning or heating service company during this cooperative work experience and demonstrate acquired skills to show progress in making the transition from classroom and lab to an actual job in this service field.
*Prerequisites: AHR 5301, AHR 5312, AHR 5313, AHR 5411. (0-30) 3

***AHR 5347 Air Conditioning and Heating Service Co-Op II:** This course is a continuation of AHR 5346 Air Conditioning and Heating Service Co-Op I.

*Prerequisites: AHR 5224, AHR 5314, AHR 5431, AHR 5394, AHR 5444, AHR 5230, AHR 5204, AHR 5346. (0-30) 3

***AHR 5348 Air Conditioning and Heating Service Co-Op III:** This course is a continuation of AHR 5347 Air Conditioning and Heating Service Co-Op II.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342, AHR 5443, AHR 5347. (0-30) 3

***AHR 5349 Air Conditioning and Heating Service Co-Op IV:** This course is a continuation of AHR 5348 Air Conditioning and Heating Service Co-Op III.
*Prerequisites: AHR 4304, AHR 4452, AHR 4361, AHR 4325, AHR 4372, AHR 5348. (0-30) 3

***AHR 5394 Mechanical Codes:** Upon completion of this course, students should be able to demonstrate a comprehensive understanding of the North Carolina Building Code relating to air conditioning in residences and commercial buildings and refrigeration systems.
*Prerequisites: AHR 5323, AHR 5333, AHR 5341, AHR 5342. (3-0) 3

AHR 5401 Basic Calculations for A/C, Heating and Refrigeration Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems relating to the heating and air conditioning field; calculate direct and indirect ratio and proportion; read a ruler accurately; manipulate fractional and decimal numbers; use simple equations to solve arithmetic formulas in the field; perform calculations for area and volume; understand scale measurement and angular measure; and discuss measurement using the metric system, as well as the English system.(4-0) 4

AHR 5411 Air Conditioning, Heating and Refrigeration Fundamentals: Upon completion of this course, students should be able to explain heat flow and how to measure it; demonstrate the use of various thermometers; explain the three states of matter; define density, specific gravity, power, energy, work, units of heat and other terms that apply to air conditioning, heating and refrigeration; and describe the refrigeration cycle including the function of the condenser, compressor, expansion device, and evaporator. (4-0) 4

***AHR 5431 Air Conditioning - Residential/ Commercial:** Upon completion of this course, students should be able to discuss the terminology used in the field; diagram a complete refrigeration cycle, properly identifying all components; choose all necessary major components; differentiate between water-and air-cooled equipment; design a simple residential air conditioning system; employ all safety measures; compare remote and self-contained systems; compare air moving equipment; describe various commercial air conditioning systems; inspect, test, and analyze a commercial system; and solve service problems on systems.
*Prerequisites: AHR 5322, AHR 5314, AHR 5313, or one year field experience in lieu of AHR 5313. (3-3) 4

***AHR 5443 All Weather Systems - Conventional:** Upon completion of this course, students should be able to describe the application of both heating and cooling in one system; compare the various combinations of oil-electric, gas-electric, all-electric, and other available combination systems; select the proper safety and operating controls for either type system; assemble all equipment and components, and construct an all-weather system of the conventional type; inspect and test systems; solve service problems; revise improperly installed systems; and measure and evaluate the overall performance of an all weather conventional type system.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342. (3-3) 4

***AHR 5444 All Weather Systems - Heat Pumps:** Upon completion of this course, students should be able to draw a diagram of the refrigerant cycle; describe the heat pump concept; discuss the air-to-air and water-to-air heat pumps; select all components necessary to construct a heat pump; make a diagram showing all necessary operating and safety controls; perform service procedures on lab equipment; and discuss good design and installation practices.
*Prerequisites: AHR 5204, AHR 5313, AHR 5342, AHR 5312. (2-6) 4

ANT – Anthropology

ANT 1502 General Anthropology: Upon completion of this course, students should be able to evaluate the forms of evidence supporting various theories of human origins; describe the developmental stages of human anatomy and culture; and compare the cultural adaptations of societies around the world with special emphasis on preliterate societies. Topics include prehistoric archaeology, problems of human survival, and the future of humanity. (5-0) 5

ARC – Architectural Technology

Also see Civil Engineering Technology for other course descriptions.

ARC 3200 Introduction to Architecture: Upon completion of this course, students should be able to identify the role of the architect and the technician in our society and architectural profession; discuss the major architectural developments in the United States; list the ways in which architectural design has responded to changes in society; and evaluate the trends in architecture today. (2-0) 2

***ARC 3217 Architectural Computer Drafting IV:** Upon completion of this course, students should be able to identify the components of the AUTOSHADE System; and convert three-dimensional architectural line drawings into realistic pictures that show perspective, surface shading, and reflection.
*Prerequisite: ARC 3316. (1-3) 2

***ARC 3303 Interior Design Drafting I:** Upon completion of this course, students should be able to apply basic light construction terminology to drawings; draw residential and industrial plans and details; recognize standard building materials and their sizes; compare and select various types of windows and doors; use inking pens; discuss contents of residential and industrial building codes; and use reference material and graphic standards.
*Prerequisite: ARC 3334. (1-6) 3

***ARC 3304 Interior Design Drafting II:** Upon completion of this course, students should be able to lay out standard building modular sizes; utilize information determined from

residential and commercial building prints; interpret and write basic specifications; draw an electrical plan with a fixture schedule; identify various types of heating and cooling systems and draw a plan using the mechanical equipment symbols; and develop details for cabinetmakers.
*Prerequisite: ARC 3303. (1-6) 3

***ARC 3314 Architectural Computer Drafting (CAD) AutoCAD I:** Upon completion of this course, students should be able to identify the components of the AutoCAD System and define their use; demonstrate a working understanding of the basic commands of the system; draw architectural drawings and dimension; have a working understanding of layers and linetypes; and plot a drawing.
*Prerequisite: ARC 3334 or equivalent. (1-6) 3

***ARC 3315 Architectural Computer Drafting II:** Upon completion of this course, students should be able to draw commercial floor plans, elevations, section details, storefront and schedules; incorporate manufacturer's CAD details into drawings; and coordinate drawings and schedules.
*Prerequisite: ARC 3314. (1-6) 3

***ARC 3316 Architectural Computer Drafting III:** Upon completion of this course, students should be able to demonstrate a knowledge of the 3D CAD coordinate system to view 3D objects; construct 3D isometric drawings, perspective drawings and 3D mesh drawings; and plot 3D drawings.
*Prerequisite: ARC 3315. (1-6) 3

***ARC 3319 Advanced AutoCAD System:** Upon completion of this course, students should be able to configure AutoCAD; understand drawing file management; customize line types; customize hatching; assign attributes; extract attributes; modify screen menus; and input prewritten Lisp programs.
*Prerequisite: ARC 3315. (1-6) 3

***ARC 3326 Residential Design:** Upon completion of this course, students should be able to produce new residential designs; produce renovation or addition designs for residential structures; develop an understanding of professional residential design and an appreciation of aesthetics and other design considerations relative to the residential professional design profession; select the most appropriate residential style considering owner needs, functional requirements, and contextual relationships to surrounding buildings and spaces; and apply principles of energy efficient design. Drafting supplies are required.
*Prerequisite: ARC 3334 or instructor's permission. (1-6) 3

ARC 3334 Architectural Drafting I - Basic: Upon completion of this course, students should be able to use drafting equipment; develop skills in lettering and drawing; use architectural and engineering scales; do freehand sketching; and draw basic residential plans, elevations, and details. (1-6) 3

***ARC 3335 Architectural Drafting II: Residential and Light:** Upon completion of this course, students should be able to draw residential and light commercial drawings, including plans, elevations, sections, details and foundation plans; be familiar with residential code requirements; and apply basic residential construction terminology to drawings.
*Prerequisite: ARC 3334. (1-6) 3

***ARC 3336 Architectural Drafting III: Commercial:** Upon completion of this course, students should become familiar with fundamental commercial construction and building materials; and be able to develop and draw plans, wall sections and details; and detail exterior systems and construction.
*Prerequisite: ARC 3335. (1-6) 3

ARC 4200 Architectural Blueprint Reading and Specifications: Upon completion of this course, students should be able to visualize building floor plans, elevations, sections, and details in relation to the completed three-dimensional structure; recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical, and electrical plans; apply information obtained from residential working drawing floor plans, elevations, sections, and details as well as heating, air conditioning, plumbing, and electrical plans; utilize information determined from commercial building drawings pertaining to masonry, reinforced concrete, structural steel, and heavy timber construction; and discuss contents of specifications and how they relate to drawing in the design and construction of buildings. (1-3) 2

***ARC 4202 Architectural Specifications Development:** Upon completion of this course, students should be able to organize various parts of specifications in the proper sequence; understand the relationship of specifications to contracts, bidding, and drawings; and demonstrate use of the C.S.I. format in writing specifications.
*Prerequisites: CIV 3306; ARC 4200 or instructor's permission. (1-3) 2

***ARC 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Architectural Technology industry; and demonstrate results of applied experience to compliment class and lab instruction.
*Prerequisite: 45 credit hours earned in residence toward engineering technology degree, and permission of Program Director. (0-0-20) 2

***ARC 4300 Architectural-Mechanical Equipment:** Upon completion of this course, students should be able to identify the types of plumbing distribution and hot water supply systems; size piping layout for a fresh water and a sanitary plumbing system; identify types of electrical wiring and service equipment; associate the types of heating and cooling systems for buildings; identify the fundamentals of lighting and associated equipment; and describe vertical transportation equipment such as elevators.
*Prerequisite: ARC 3335, ARC 4200. (2-3) 3

***ARC 4302 Architectural Model Construction:** Upon completion of this course, students should be able to use basic tools and equipment necessary to build models; build various types of contours and landscape models; construct simple study models for architectural engineering or interior design study; represent the basic building materials at various scales; and construct either architectural, structural, or interior models from prints.
*Prerequisite: ARC 3334 or ability to read prints. (1-6) 3

ARC 4310 Energy Efficient and Solar Home Design: Upon completion of this course, students should be able to

identify the different systems of passive solar installations; understand the sun's effect on the earth; compute heat loss and gain; utilize the basic tools of passive design; be acquainted with actual passive applications; and have a basic understanding of the performance of various building materials and insulation. (3-0) 3

***ARC 4337 Architectural Drafting IV: Site Planning:** Upon completion of this course, students should be able to site buildings from the standpoint of orientation, utilities, cut and fill, parking and drives; understand the effect of zoning and other code requirements; and be able to identify components and draw storm drainage and sedimentation plans.
*Prerequisite: ARC 3336, CIV 3407. (1-6) 3

***ARC 4338 Architectural Drafting V - Mechanical, Electrical and Plumbing:** Upon completion of this course, students should be able to draw mechanical duct layouts; draw lighting, electrical plans, and schedules; draw plumbing plans, schedules, and riser diagrams; and identify and utilize appropriate symbols.
*Prerequisite: ARC 3336, ARC 4300, or instructor's permission. (1-6) 3

***ARC 4339 Architectural Drafting VI: Structural:** Upon completion of this course, students should be able to draw a structural steel framing plan for a simple commercial or industrial building; detail the component parts of steel structures; detail components of a reinforced concrete structure creating the placement drawing and bar bending schedule; present detailed drawing of a composite type structure; and provide the structural plan and detail aspects of a simple wooden facility.
*Prerequisite: CIV 4426, ARC 3335; Corequisite CIV 4434. (1-6) 3

***ARC 4340 Architectural Drafting VII: Working Drawings:** Upon completion of this course, students should be able to perform as team members in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; function as members of the production team in the preparation and presentation of design development drawings; apply the fundamentals of ordinances and regulations pertaining to zoning, traffic, and facilities for the physically handicapped; produce, as members of the team, a set of architectural working drawings, consisting of site plan, floor plans, reflected ceiling plans, elevations, wall section and details; and apply office practice methods pertaining to project production.
*Prerequisite: ARC 4300, ARC 4337, CIV 4300. (1-9) 4

***ARC 4345 Architectural Presentation Drawing:** Upon completion of this course, students should be able to perform basic and advanced architectural presentation techniques, including the use of shading, shadows, and the use of perspective charts; apply a variety of mediums - including pencil, ink, and color; draw vegetation, people, and transportation vehicles; and produce a complete architectural rendering.
*Prerequisite ARC 3334 or equivalent. (1-6) 3

ART – Art

^*Satisfies humanities requirement.*

ART 1200 Fiber Dyes: Students completing this course should be able to demonstrate a basic understanding of direct and top-dyed processes utilizing natural and synthetic dyes, as well as an understanding of color theory as it applies to hand weaving. Students will need to purchase additional supplies for this course. (0-4) 2

^ **ART 1300 Introduction to Art I:** Upon completion of this course, students should be able to recognize and discuss the basic elements and principles of design as they apply to the visual arts. Through written or oral means, they will demonstrate an understanding of appropriate terms and the skills required in the various art media, as well as knowledge of how the visual arts affect daily life and commerce. Students may need to purchase additional supplies for this course. (3-0) 3

^ **ART 1301 Introduction to Art II:** Upon completion of this course, students should be able to draw parallels between art of the past and present. They will demonstrate an understanding through written or oral means of broad social, political, psychological, and economic motivations for creating art. Students may need to purchase additional supplies for this course. (3-0) 3

ART 1304 Printmaking I: Upon completion of this course, students should have a basic introductory understanding of the four basic print media, including serigraphy, relief, intaglio, and lithography. Projects will be completed in each of these areas. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1305 Printmaking II: Upon completion of this course, students should be able to select woods, execute appropriate designs for woodcuts, handle woodcut tools properly, and produce editions of prints using various woodcut techniques. Students will need to purchase additional supplies for this course. (0-6) 3

^ **ART 1310 History of Art I:** Students will survey major visual arts and the influence of the historical past on the concepts and form of contemporary creative endeavor - Prehistoric through Gothic. (3-0) 3

^ **ART 1311 History of Art II:** Students will survey major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor - the Renaissance, Baroque, and Rococo up to the 18th century. (3-0) 3

^ **ART 1312 History of Art III:** Students will survey the major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor from the 18th Century Rococo and rise of Romanticism through the art of the 20th Century. (3-0) 3

ART 1323 Basic Woodcarving: Students completing this course should be able to demonstrate a basic understanding of design concepts as they apply to woodcarving, as well as basic carving techniques, care of tools, and the history of carved wooden objects. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1327 Sculpture I: Students completing this course should be able to demonstrate a basic understanding of traditional and contemporary forms of sculpture. Through hands-on experience in a variety of media, they will be able to

utilize the elements of art and principles of design in producing original sculpture. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1328 Sculpture II:** Students completing this course should be able to build on the visual and technical skills learned in Sculpture I to produce original solutions to sculptural problems in a variety of media including clay, wood, or stone. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1327 or Departmental consent. (0-6) 3

***ART 1329 Sculpture III:** Students completing this course should be able to demonstrate a good understanding of the visual and technical skills learned in Sculpture I and II, and to express individual ideas in metal, stone, clay, or wood. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1328 or Departmental consent. (0-6) 3

ART 1331 Cartooning and Caricaturing: In this course, students will analyze techniques in cartooning and caricature, drawing and interpreting given problems with emphasis on originality. Students will need to purchase additional supplies for this course. (2-2) 3

***ART 1332 Photographing Nature:** This course is designed for students wishing to become technically proficient at taking nature photographs with a reasonable degree of reliability. Students will develop basic technical skills and knowledge of wildlife, close-up, and scenic photography. Using their own 35mm cameras, students will demonstrate their understanding of close-up techniques, blind construction, and lighting used in nature photography. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384 or Departmental consent. (2-2) 3

ART 1334 Painting I: Upon completion of this course, students should be able to select tools and materials for painting; demonstrate a knowledge of the elements of art and the principles of design as these apply to the production of painting. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1335 Painting II:** Students will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1334 or Departmental consent. (0-6) 3

***ART 1336 Painting III:** Students will give special attention to painting as a means of personal expression and will continue to identify and solve problems of pictorial production in color, form, and spatial illusion, and will continue technical experimentation. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1335 or Departmental consent. (0-6) 3

ART 1337 Portrait Painting I: Upon completion of this course, students should be able to demonstrate an understanding of line, value, warm and cool tones, as well as an understanding of the rules of linear expression in "seeing" the shape and proportions of the subjects' head and shoulders. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1338 Portrait Painting II:** Upon completion of this course, students should be able to demonstrate the use of correct flesh tones and the proper choice of backgrounds of the subjects' head and shoulders. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1337 or Departmental consent. (0-6) 3

***ART 1339 Portrait Painting III:** Upon completion of this course, students should be able to demonstrate three-quarter view (including hands) of the subject in full color. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1338 or Departmental consent. (0-6) 3

ART 1340 Stained Glass I: Students completing this course should be able to demonstrate a basic understanding of how the elements of art and the principles of design function in relation to stained glass objects. They will use the Tiffany method of stained glass construction to produce original stained glass objects. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1341 Stained Glass II:** Students completing this course should be able to demonstrate a basic understanding of the lead came method of stained glass construction. Utilizing this and the visual and technical skills learned in Stained Glass I, they will begin to express individual ideas in stained glass. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1340 or Departmental consent. (0-6) 3

ART 1344 Weaving I: Students completing this course should be able to demonstrate a basic understanding of how to design and produce constructed textiles. They will know how to warp and dress the loom, and employ basic rug, basket, and tapestry techniques. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1345 Weaving II:** Students completing this course should be able to warp and dress the floor loom, and design and produce original clothing and/or manipulated fiber constructions. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1344 or Departmental consent. (0-6) 3

***ART 1346 Weaving III:** Students completing this course should be able to design and produce textiles using the double weave and other 4-harness floor loom pattern techniques. They should also be able to use forms of ikat and dyeing incorporated in their weaving projects. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1345 or Departmental consent. (0-6) 3

***ART 1347 Weaving IV:** Students completing this course should be able to demonstrate an understanding of bound, rya, or overshot weave. They design and produce one technique of fiber construction on the floor loom, and will also know the history and contemporary use of that technique. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1346 or Departmental consent. (0-6) 3

ART 1348 Watercolor I: Upon completion of this course, students should be able to produce watercolor paintings of landscapes and still life subjects that utilize appropriate brush techniques and proper color mixing for this medium. Students

will need to purchase additional supplies for this course. (0-6) 3

*ART 1349 Watercolor II: Upon completion of this course, students will complete watercolor paintings that demonstrate a use of spatial depth and good composition. Students will produce paintings that incorporate glaze techniques and mixed media, including traditional and non-traditional media. Students will demonstrate an ability to use these techniques to create works that express their own personal expression. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1348 or Departmental consent. (0-6) 3

ART 1356 Furniture Design I: Students completing this course should be able to demonstrate a basic understanding of the design and construction of original functional and sculptural wood furniture, as well three-dimensional concepts in furniture desig n. They will learn basic wood furn ture construction and finishing techniques through hands-on experience using hand and power tools. They should also be able to demonstrate a basic knowledge of historical and contemporary furniture design. Students will need to purchase additional supplies for this course. (0-6) 3

*ART 1357 Furniture Design II: Students completing this course will further develop original ideas in furniture design. They will continue developing skills in wood furniture construction and finishing, including use of the lathe and router, and will add to their knowledge of historical and contemporary furniture design. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1356 or Departmental consent. (0-6) 3

*ART 1358 Furniture Design III: Students completing this course should be able to continue to develop original ideas in furniture design, and will demonstrate a good knowledge of the construction and finishing of functional and sculptural furniture, including basic woodcarving techniques. They will also further add to their knowledge of historical and contemporary furniture design and construction. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1357 or Departmental consent. (0-6) 3

ART 1360 Raku: Students completing this course should be able to demonstrate an understanding of the history, aesthetics, and techniques of the raku process. They will utilize this knowledge to design and produce original and expressive ceramic art. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1364 Ceramics I: Students completing this course should be able to demonstrate a basic understanding of how the elements of art and the principles of three-dimensional design function in relation to clay form. Through hands-on experience with the clay, they will design and make original, expressive clay objects, using a variety of hand-building techniques. Students will need to purchase additional supplies for this course. (0-6) 3

*ART 1365 Ceramics II: Students completing this course should be able to demonstrate a basic understanding of traditional and contemporary forms of wheel thrown pottery. Building on visual and technical skills learned in CeramicsI, they also should be able to utilize design concepts effectively in producing original thrown forms. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1364 or Departmental consent. (0-6) 3

*ART 1366 Ceramics III: Students completing this course will further explore fabricating techniques and will examine the relationship between form, materials, and surface. They will demonstrate a better understanding of contemporary ceramics, fire a reduction kiln, and begin to visually communicate original ideas in clay. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1365 or Departmental consent. (0-6) 3

ART 1374 Jewelry I: Students completing this course should be able to demonstrate a basic understanding of how to design and produce finished metal jewelry. They should know how to saw, file, forge, solder, cast, and finish a variety of metals, as well as know how to care for tools and equipment. Students will need to purchase additional supplies for this course. (0-6) 3

*ART 1375 Jewelry II: Students completing this course will further develop their individual design ideas using a variety of metals, and will know how to do cloisonne and casting with two metals. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1374 or Departmental consent. (0-6) 3

*ART 1376 Jewelry III: Students completing this course should be able to demonstrate a good understanding of how to design and produce original jewelry. They will do plique-a-jour, hollow core casting, and will begin to visually communicate original ideas through their work. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1375 or Departmental consent. (0-6) 3

ART 1384 Basic Camera Techniques: Students will develop skills using their own 35mm camera. Upon completion of this course, students should be able to determine proper exposure under a variety of light and subject conditions, including the use of flash. Instruction and practice will be provided in camera handling, films, filters, lenses, and composition. Students will take photographs using color slides and films, which they may have commercially processed, to demonstrate their understanding of specific camera techniques. Students will need to purchase additional supplies for this course. (3-0) 3

*ART 1385 Photo Lab Processes I: This is a course in basic black-and-white laboratory processes. Students will take photographs with their own 35mm cameras. They will demonstrate skills in the use of laboratory techniques to enhance the quality of the photograph, such as control of density and contrast, burning and dodging, as well as basic photo finishing. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384 or Departmental consent. (1-4) 3

*ART 1386 Photo Lab Processes II: Students will develop a portfolio of black-and-white photographs using their own 35mm cameras and the 4" x 5" view camera (supplied by the instructor). Upon completion of this course, students should be able to set up and operate the view camera for shooting still lifes and portraits in the studio, as well as for correcting vertical and horizontal distortion. They should be

able to calculate lighting ratios and arrange lighting set-ups for taking still lifes and portraits. They will also gain experience in the use of several special photo-mechanical processes, such as solarization and posterization. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385. (1-4) 3

***ART 1389 Color Printing I:** This is a beginning course in color printing. It is designed for students who have demonstrated an understanding of black-and-white laboratory processes. Students will shoot color negative film in their own camera and make prints from those negatives. Students completing this course will develop a portfolio of color photographs which they have shot and printed. Students should be able to demonstrate an understanding of basic color theory as it relates to shooting color negative materials and to the color printing process. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385. (1-4) 3

***ART 1390 Color Printing II:** Upon completion of this course, students should be able to expose color transparency film properly and make color prints from that film. They will use the view camera supplied by the instructor to shoot and print large-format transparencies. They should also be able to demonstrate an understanding of advanced techniques in lighting and the use of color correction filters when exposing color transparency film. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1389. (1-4) 3

***ART 1392 Advanced Camera Techniques:** This is a continuation of Basic Camera Techniques (ART 1384). During this course, students will explore various aspects of photographic composition in an effort to develop their own visual awareness. Students will acquire skills in advanced camera-handling techniques, such as multiple exposure, open flash, night photography, and specialized lighting. Various legal aspects of photography will be discussed in an effort to make the student aware of the photographer's legal rights and responsibilities. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384. (3-0) 3

ART 1404 General Drawing I: This course introduces students to many of the problems (and their possible solutions) in representing visual experience on the two-dimensional surface. Students will experiment with a variety of tools, materials, and techniques of drawing, and will learn to use these techniques and combinations of tools and materials as a means of personal expression and communication of experience. They will also be introduced to the basics of composition and perspective. Students will need to purchase additional supplies for this course. (2-4) 4

***ART 1405 General Drawing II:** Upon completion of this course, students will have been introduced to the study of perspective and other systematized methods of rendering the illusion of form and space. They should be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of materials and techniques in drawing. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1404 or Departmental consent. (2-4) 4

***ART 1406 General Drawing III:** In this course, students will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1405 or Departmental consent. (2-4) 4

***ART 1407 Figure Drawing:** Upon completion of this course, students should be able to utilize a variety of media and techniques in depicting the human form in both active and still poses, draped and undraped. They should be able to demonstrate through their projects a knowledge of skeletal structure, an understanding of relative body proportions, and of foreshortening relating to the human form. Students will need to purchase additional supplies for this course.
NOTE: This course can be taken instead of ART 1405 or ART 1406, but not both.
*Prerequisite: ART 1404 or Departmental consent. (2-4) 4

ART 1424 Design I: Upon completion of this course, students should be able to identify and use the principles and elements of design as these relate to two-dimensional surface. Flat pattern development, pictorial composition, depiction of spatial illusion, and value analysis will have been studied. Students will need to purchase additional supplies for this course. (2-4) 4

***ART 1425 Design II:** Students will examine and explore basic color theories. With this basis, individual color solutions, particularly as they might apply to practical communications problems, will be explored. The elements and principles of design will continue to be explored. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1424 or Departmental consent. (2-4) 4

***ART 1426 Design III:** Students will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1425 or Departmental consent. (2-4) 4

***ART 1434 Airbrush:** Upon completion of this course, students should be able to use single- and double-action airbrushes to render basic three-dimensional geometric forms and simple objects in a realistic style. They should be able to use stencils and to cut friskets for a variety of airbrush assignments, as well as do basic black-and-white photo retouching and restoration. They will also use various air supplies and know how to clean and care for airbrush equipment. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 3401. (2-4) 4

ART 2322 Surface Design for Textiles: This course is an introduction to non-constructed textile processes. Students completing it should have a basic understanding of the elements of art and the principles of design as they relate to textile surfaces. Through hands-on experience they will explore stamping, stencil and resists, hand painting, batik and silk screening on fabric. Students will need to purchase additional supplies for this course. (0-6) 3

AUB – Automotive Body Repair

AUB 5201 Trim and Glass: Upon completion of this course, students should be able to disassemble, rebuild, and reassemble automobile doors; remove and install windshields and back glass; aim headlights; and remove and install seat covers and side trim (1-3) 2

AUB 5202 Auto Renewal: Upon completion of this course, students should be able to clean and repaint engines; clean and dye seats and doors; clean and dye headliners and carpets; renew trunk and engine compartments; buff and polish exterior surfaces; clean and restore chrome; and clean and dress vinyl tops and convertible tops. (1-3) 2

AUB 5203 Estimating Auto Body Damage: Upon completion of this course, students should be able to read a crash estimating guide; prepare a damage estimate; interpret an estimate; estimate straight time costs; identify unibody and conventional auto body parts; and analyze damage repairs on actual vehicles. (2-0) 2

***AUB 5215 Automotive Body Repair Co-Op:** Upon completion of this course, students should be able to apply skills acquired in auto body repair courses to actual working situations in the auto body repair industry; produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of Automotive Body Repair program courses. (0-20) 2

***AUB 5235 Special Finishes:** Upon completion of this course, students should be able to spray paint a vinyl top; paint trunk compartments; paint plastic parts; pinstripe; use various custom paints; mask and stripe for special effects; and use an air brush properly.
*Corequisites: AUB 5431, AUB 5233. (1-3) 2

***AUB 5344 Body Shop Applications I:** Upon completion of this course, students should be able to use all techniques covered in the previous Automotive Body Repair courses; and make actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry.
*Prerequisite: All AUB-prefix courses first three quarters. (0-9) 3

***AUB 5345 Body Shop Applications II:** A continuation of AUB 5344.
*Prerequisite or corequisite: AUB 5344. (0-9) 3

***AUB 5346 Body Shop Applications III:** A continuation of AUB 5345.
*Prerequisite or corequisite: AUB 5345. (0-9) 3

***AUB 5347 Body Shop Applications IV:** A continuation of AUB 5346.
*Prerequisite or corequisite: AUB 5346. (0-9) 3

AUB 5412 Frame and Unitized Body Alignment: Upon completion of this course, students should be able to use frame gauges; use hydraulic tools for straightening auto body damage; align body openings; describe the types of major frame damage; tie down a car; and use a frame machine to straighten frame damage. (2-6) 4

AUB 5431 Paint Equipment and Preparation: Upon completion of this course, students should be able to disassemble, clean, and reassemble a paint spray gun; maintain a spray paint system; select spray paint equipment; sand and mask a car in preparation for painting; use the basic techniques of spray painting; mix and spray undercoats, sealers, and various kinds of paint systems; and prepare various panels for topcoat applications. (2-6) 4

***AUB 5401 Panel Replacement and Adjustments:** Upon completion of this course, students should be able to remove damaged sheet metal panels and adjust them properly to the adjacent panels; use an air chisel; install partial panels, patch panels and full panels; use pop-rivets; and use a panel spotter and wire feed welder.
*Prerequisite: WLD 5250; Corequisite: AUB 5600. (2-0-6) 4

***AUB 5402 Enamel Painting:** Upon completion of this course, students should be able to sand and prepare a car for painting; spray paint using various types of paints, acrylic lacquers, acrylic enamels, polyurethane enamels, acrylic urethane enamels, basecoat/clear coat; and identify paint problems.
*Corequisite: AUB 5431. (2-0-6) 4

AUB 5600 Metal Finishing with Plastic and Fiberglass Fillers: Upon completion of this course, students should be able to shrink sheet metal; use a hammer and dolly; rough out and fill dents; finish dents with plastic fillers, metallic fillers, and fiberglass fillers; fill rusted-out areas with fiberglass cloth and fiberglass mat; and use grinders, sanders, and related tools. (3-0-9) 6

AUT – Automotive Technology

***AUT 4100 Port Type Fuel Injection (PFI):** Upon completion of this course, students should be able to describe the operation, diagnose problems, disassemble, repair as necessary, and reassemble typical port fuel injection systems. This course is part of AUT 4406.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director. (0-2) 1

***AUT 4105 Computer Controlled Carburetion Systems:** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical computer controlled carburetion systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director. This course is part of AUT 4506. (1-0) 1

***AUT 4200 Throttle Body Fuel Injection (EFI):** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical throttle body electronic fuel injection systems. This course is part of AUT 4506.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director. (2-0) 2

***AUT 4300 Automotive Emissions Systems:** Upon completion of this course, students should be able to describe the operation of emission control systems used on current

production automobiles and light trucks; state federal, N.C. State, and local laws relating to emission standards; troubleshoot, test, and service emission control systems.
*Prerequisites: AUT 5405, AUT 5415, AUT 5416, or permission of the Program Director. (2-2) 3

***AUT 4308 Manual and Automatic Power Trains Applications:** Upon completion of this course, students should be able to describe the flat rate hour system; diagnose and make basic repairs in all automotive power train systems; discuss and solve service management and customer relations problems.
*Prerequisites:AUT 5425, AUT 5426, AUT 5427. (1-6) 3

AUT 4311 Automotive Brake Systems: Upon completion of this course, students should be able to describe the operation and repair of drum brakes, disc brakes, brake hydraulic systems, parking brakes, power brake systems to include vacuum boost, hydra-boost, electrically-powered boost systems, and anti-lock brakes. (2-2) 3

***AUT 4402 Auto Instrumentation and Chassis Electrical Systems:** Upon completion of this course, students should be able to describe the operation and circuitry involved in automotive instrumentation; describe the operation and related circuitry in chassis electrical components; troubleshoot and service automotive instruments and chassis electrical components.
*Prerequisites: AUT 5415, AUT 5416, or permission of Program Director. (3-2) 4

AUT 4407 Automotive Engine Electrical Systems I: Upon completion of this course, students should be able to describe the electrical theory of operation and construction, disassemble, repair, reassemble, and test late model alternators, starters, and ignition systems. (2-4) 4

***AUT 4408 Gasoline Combustion Engines II:** Upon completion of this course, students should be able to remove and replace engine assembly; perform head and valve train diagnosis and grind valves; perform the following in-frame engine tasks: remove and replace heads, remove and replace timing chains, belts and gears, and remove and replace main seals and engine mounts.
*Prerequisite: AUT 4415. (2-4) 4

***AUT 4409 Automotive Engine Electrical Systems II:** Upon completion of this course, students should be able to describe electrical troubleshooting procedures; operate automotive engine electrical diagnostic equipment; and perform engine performance and engine electrical diagnostic procedures on vehicles.
*Prerequisite: AUT 4407. (2-4) 4

AUT 4411 Auto Manual Power Train Systems: Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair, and reassemble three-, four-, and five-speed manual trans-missions, transaxles, drivelines, and differential units. (2-4) 4

AUT 4412 Automotive Suspension and Steering Systems: Upon completion of this course, students should be able to disassemble, repair, and reassemble manual and power steering components, front and rear suspension units; check and adjust front and four-wheel alignment angles; and balance wheels. (2-4) 4

AUT 4413 Automotive Automatic Transmissions: Upon completion of this course, students should be able to describe the principles of operation and fluid flow of an automatic transmission; disassemble, repair, and reassemble late model rear drive automatic transmissions. (2-4) 4

AUT 4414 Automotive Climate Control Systems: Upon completion of this course, students should be able to describe the operation of automotive heating and air conditioning systems to include electrical and mechanical controls; service and repair the systems and system components; describe safety precautions in handling refrigerants and working with pressurized heating and air conditioning systems; and operate recycling equipment. (2-4) 4

AUT 4415 Gasoline Combustion Engines I: Upon completion of this course, students should be able to describe the principles of operation of internal combustion engines; disassemble, measure parts, reassemble and run selected late model engines; and adjust to manufacturer's specifications. (2-4) 4

***AUT 4416 Automotive Automatic Transaxles:** Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair, reassemble, and diagnose problems in automatic transaxles and automatic overdrive transmissions.
*Prerequisite: AUT 4413. (2-4) 4

AUT 4417 Automotive Fuel Delivery Systems: Upon completion of this course, students should be able to describe the method of operation and construction of carburetors, fuel injection systems, fuel pumps and intake systems, disassemble, repair, and reassemble late model carburetors. (2-4) 4

***AUT 4501 Automotive Electronics:** Upon completion of this course, students should be able to describe conventional current theory; solve series, parallel and series-parallel circuit problems; use analog and digital meters to wire and troubleshoot electronic circuits; describe semi-conductors and electrical sensors as they are used in automotive computer systems; and read and interpret wiring diagrams.
*Prerequisites: AUT 5415, AUT 5416, or permission of Program Director. (4-2) 5

***AUT 4506 Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to describe the operation, diagnose problems, disassemble, repair, and reassemble typical fuel injection and computer controlled carburetion systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of Program Director. (4-2) 5

***AUT 5205 Fundamentals of Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to discuss the operation of typical automotive onboard computers; describe automotive computer input and output devices; and use diagnostic troubleshooting charts to describe troubleshooting procedures in typical computer-controlled fuel systems.
*Prerequisite: AUT 5405 or permission of Program Director. (2-0) 2

AUT 5212 Electrical Testing: Upon completion of this course, students should be able to operate automotive diagnostic equipment; demonstrate use of shop manuals; and demonstrate an understanding of automotive and truck wiring systems. (1-3) 2

***AUT 5295 Auto Mechanics Co-Op:** Upon completion of this course, students should be able to produce a master work log sheet containing the various types and number of job tasks completed in an automotive service business during this cooperative work experience; and demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty.
*Prerequisite: Fourth quarter standing in Automotive Technology/Mechanics programs. (0-20) 2

***AUT 5307 Electrical Fuel and A/C Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of basic automotive electrical, fuel, and air conditioning systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisites: AUT 5405, AUT 5415, AUT 5416, AUT 5454. (1-6) 3

***AUT 5308 Brakes, Steering and Suspension Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of automotive suspension, steering, and braking systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisite: AUT 5310, AUT 5404. (1-6) 3

AUT 5311 Brake Systems: Upon completion of this course, students should be able to describe the operation and repair drum brakes, disc brakes, brake hydraulic systems, parking brakes, and power brake systems including vacuum boost, hydra-boost and electrically-powered boost, and anti-lock brakes. (2-3) 3

***AUT 5321 Auto Dealer Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience; and demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. The work experience emphasis will be in the area of major engine diagnosis and repair.
*Prerequisites: AUT 4415, AUT 4417, AUT 4407. (0-30) 3

***AUT 5322 Auto Dealer Co-Op II:** This course is a continuation of AUT 5321 Automotive Dealer Co-Op I, but the work experience emphasis will be in the area of electrical / electronic systems diagnosis and repair.
*Prerequisites: AUT 4409, AUT 4401, AUT 4301. (0-30) 3

***AUT 5323 Auto Dealer Co-Op III:** This course is a continuation of AUT 5322 Automotive Dealer Co-Op II, but the work experience emphasis will be in the area of brake, steering and suspension systems diagnosis and repair; and computerized engine control systems diagnosis and repair.
*Prerequisites: AUT 4412, AUT 4406, AUT 4300, AUT 4311. (0-30) 3

***AUT 5324 Auto Dealer Co-Op IV:** This course is a continuation of AUT 5323 Automotive Dealer Co-Op III, but the work experience emphasis will be in the area of manual transaxle and automatic transmission diagnosis and repair; and body electrical diagnosis and repair.
*Prerequisites: AUT 4413, AUT 4402. (0-30) 3

AUT 5401 Internal Combustion Engines I: Upon completion of this course, students should be able to describe engine components and operation; disassemble, measure parts for excessive wear, reassemble, and run selected automobile engines; and make necessary adjustments according to manufacturers' specifications. (2-6) 4

***AUT 5402 Internal Combustion Engines II:** Upon completion of this course, students should be able to perform the following in-chassis engine service: remove and replace the following parts on the engine: head gasket(s), front crankshaft seal, rear crankshaft seal; remove and replace timing chain, gear, or belt; grind valves and reface seats on cylinder heads; and make necessary adjustments according to manufacturers' specifications.
*Prerequisite: AUT 5401. (2-6) 4

AUT 5403 Basic Calculations for Auto and Diesel Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the automotive field; use the functions of ratio and proportion to solve gear, crankshaft and pulley problems; read a scale, micrometer and feeler gauge accurately; use area and volume formulas; apply angular and geometric measurement to cylinder, chassis and flywheel problems; understand scale measurement; and discuss measurement in terms of the metric system as well as the English system. (4-0) 4

AUT 5404 Steering and Suspension Systems: Upon completion of this course, students should be able to describe the operation of and repair the following components: manual and power steering, front and rear suspension units; check and adjust front and four-wheel alignment angles; and balance wheels. (2-6) 4

AUT 5405 Basic Automotive Fuel Systems: Upon completion of this course, students should be able to disassemble, describe the operation, repair, and reassemble major manufacturers' carburetors; describe the operation and construction of carburetors, fuel pumps, intake and exhaust systems; and perform typical carburetor adjustments on the car. (2-6) 4

AUT 5415 Electrical Systems I: Upon completion of this course, students should be able to disassemble, repair, reassemble, and test automobile alternators, starters, distributors and electrical accessories; and describe the operation and construction of the above automobile components. (2-6) 4

***AUT 5416 Electrical Systems II:** Upon completion of this course, students should be able to operate automotive electrical diagnostic equipment; and perform the procedures used for a major automotive tune-up on typical vehicles.
*Prerequisite: AUT 5415. (2-6) 4

AUT 5425 Power Train Systems I: Upon completion of this course, students should be able to describe the operation, disassemble, repair, and reassemble the following components: clutches, manual transmissions (three-, four-, and five-speed), manual transaxles, drive lines, and differential units. (2-6) 4

***AUT 5426 Power Train Systems II:** Upon completion of this course, students should be able to describe the operation, diagnose problems, and repair the following typical automatic transmissions: General Motors THM 200, THM 350, Ford C-4, and Chrysler Torque-Flite.
*Prerequisite: AUT 5425. (2-6) 4

***AUT 5427 Power Train Systems III:** Upon completion of this course, students should be able to describe the mechanical power flow and trace the hydraulic oil flow in automatic overdrive and automatic transaxle transmissions; diagnose problems, disassemble, repair, and reassemble automatic overdrive and automatic transaxle transmissions.
*Prerequisite: AUT 5426. (2-6) 4

AUT 5454 Automotive Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of automotive heating and air conditioning systems, including electrical and mechanical controls; demonstrate competencies in the testing, service, and repair of the systems and system components; describe the safety precautions that must be taken when handling refrigerants and working with pressurized heating and air conditioning systems; and operate recycling equipment. (2-6) 4

BAF – Banking and Finance

BAF 3300 Commercial Lending: Upon completion of this course, students should be able to describe the lending function of a commercial bank; prepare financial reports using accepted formats; explain loan Department functions and interaction with loan customers; apply the steps in the decision process as it involves structuring the loan; apply proper procedures in problem loans; manage the loan portfolio; explain the influence of regulations; and describe the business development function. (3-0) 3

BAF 3301 Principles of Banking: This course will focus on the basic functions and operations of banking and a working knowledge of the operation of a bank. Upon completion of this course, students should be able to perform basic functions of commercial banking; demonstrate working knowledge of the operation of a commercial bank in the management of bank funds, bank control systems, and paying teller operations; and identify and define the principles underlying the main objectives sought in banking operations. (3-0) 3

BAF 3302 Law and Banking Principles: This course is designed to equip students with a non-technical, clear understanding of all aspects of the legal system that directly affect banks. Upon completion of this course, students should be able to describe the court system and civil procedures; define consumer protection; describe and explain negotiable instruments and secured transactions. (3-0) 3

BAF 3303 Money and Banking: This course is designed to present basic economic principles as they relate to banking. Upon completion of this course, students should be able to explain the economy and how it works; describe the Federal Reserve System and the business of banking as related to these areas; define the monetary policy and its impact on financial markets and banks; discuss alternative theories of money's role in the economy; state fiscal policy; and interpret trends in banking. (3-0) 3

BAF 3304 Fundamentals of Teller Operations: Upon completion of this course, students should be able to explain the functions of the banking industry; explain the role tellers play in banks; explain how bank products are bought and sold; explain the role of a teller in bank security; and exhibit an appreciation of non-technical skills such as communication and teamwork values. (3-0) 3

BAF 4303 International Banking: Upon completion of this course, students should be able to describe the basic framework and fundamentals of international banking; explain how money is transferred from one country to another; discuss the methods of financing international trade; and list and describe the international agencies involved with international currency markets. (3-0) 3

BAF 4308 The New World of Commercial Banking: This course, an advanced introduction to the banking system, provides a topical look at the changing role of banks. Emphasis is conceptual rather than operational. Designed to familiarize students with the broader issues facing the banking industry, it includes changes necessitated by technological advances, recent legislation, and new approaches to global banking. Upon completion of this course, students should be able to name the historical highlights of the banking industry; identify effective bank management - placing, structure, and control; identify sources and uses of funds - charges and growth; define wholesale and retail banking; explain electronic funds transfer systems; define multinational banking; define specialized services - trust and cash management; identify regulatory constraints; and discuss state issues and challenges for the future . (3-0) 3

BAF 4309 Consumer Lending: This course emphasizes pragmatic "how-to's" that detail the many types of credit arrangements in which a finance charge is paid for the privilege of repaying debts in delayed payments. Upon completion of this course, students should be able to identify collection policies and procedures; explain principles of credit evaluation; describe marketing bank services; define open-end credit; identify direct lending; explain the leasing of consumer goods; identify the legal aspects of installment credit; conduct financial statement analyses; identify rate structure and yield analysis; describe indirect lending; explain insurance for installment lending; and use appropriate techniques in organizing and managing an installment loan Department. (3-0) 3

BAF 4310 Bank Investments and Funds Management: This course presents the factors that affect investment strategies and decisions, grounded in a framework of fundamental investment concepts such as risk, liquidity, and yield. The basic characteristics of the major types of bank investments are studied, along with the relationship of investment management to other areas of banking and the national economy. Upon completion of this course, students should be able to identify and describe securities (U. S. Treasury, federal agency, state and local); define revenue bonds, money market investments,

securities markets; explain investment objectives (short-term and long-term); identify tax factors in bank investment; explain primary and secondary reserves; and define investment accounts; and maturity strategies. (3-0) 3

BAF 4312 Marketing for Bankers: This course provides a thorough grounding in basic marketing principles and theory and their practical application to the banking industry. Upon completion of this course, students should be able to conduct marketing in the organization; interpret consumer motivation and buying behavior and apply marketing information and research to this area of banking; identify and explain the marketing management process - situational analysis, formulation of a master marketing strategy, performance monitoring and evaluation; demonstrate knowledge of marketing as it relates to the wholesale side of banking; and describe the significance of public relations and communications to the banking industry. (3-0) 3

BAF 4313 Law and Banking, Applications: Upon completion of this course, students should be able to describe the legal aspects of bank operations; identify and utilize various forms of commercial paper; apply procedures of check handling and payment mechanisms; conduct deposit and collection activities; and describe payor bank and its customer drawer activities. (3-0) 3

BAF 4314 Real Estate Finance: Upon completion of the course, students should be able to identify sources of mortgage credit; demonstrate knowledge of federal assistance in the mortgage market; demonstrate knowledge of financing single-family homes, condominiums, industrial and agricultural properties and shopping centers; conduct analyses of mortgage credit and real estate investment; describe collection policies and procedures; identify and use forms and documents used to process mortgage loans; and conduct research to real estate financing. (Not acceptable for real estate broker prelicensing requirement.) (3-0) 3

BAF 4316 The Trust Business: This course provides an overview of the trust Department. Upon completion of this course, students should be able to explain the role of the trust Department in a commercial bank and how it fits into the overall banking business; identify the services provided and how they are delivered; and describe the changing role of the trust Department. (3-0) 3

BAF 4320 Deposit Operations: This course emphasizes the deposit operations of banks in the context of the U. S. payments systems. Emphasis is placed on systems rather than product or instrument. Upon completion of this course, students should be able to explain how banks operate relative to their deposit-taking activities and management of deposited funds; describe the impact of the external environment on determining why banks operate the way they do; demonstrate a knowledge of government rules and regulations; and discuss trends of American's payment mechanisms. (3-0) 3

BAF 4322 Trust Operation: Upon completion of this course, students should be able to use and understand basic trust terminology; discuss the concepts and ideas that comprise the various trust functions and translate them into workable procedures; identify the types of trust accounts and services; explain the management and operation of trust services; apply the fundamentals of trust accounting in performing cash transactions and asset/liability transactions; describe the internal accounting controls relevant to trusts; and perform basic tasks relevant to trust account reporting. (3-0) 3

BAF 4324 Securities Processing: Upon completion of this course, students should be able to describe the securities-related activities open to banks; perform specific securities processing activities; administer consumer and corporate accounts, as well as the bank's own investment portfolio; and perform procedures involved in clearing and settlement system. (3-0) 3

Basic Law Enforcement Training – See BLET program description.

BIO – Biology

BIO 1500 Biological Science: A foundation course designed to introduce selected fundamental biological principles. Upon completion of this course, students should be able to demonstrate an understanding of the following topics: the cell, transport mechanisms, reproduction, genetics, development, photosynthesis, respiration, ecology, plant and animal diversity, and evolution. (3-4) 5

BIO 1501 General Botany: An introductory study of green and non-green plants. Upon completion of this course, students should be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition, and ecology. (3-4) 5

BIO 1502 General Zoology: An introductory study of the major groups of animals. Upon completion of this course, students should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification, and evolution. (3- 4) 5

BIO 1503 Microbiology: An introduction to the world of microorganisms—bacteria, viruses, fungi, protozoa, and Rickettsia—with emphasis upon bacteria. Students, upon completion of this course, should have gained knowledge of the structure of microorganisms, interrelationships among them, factors influencing their growth, and how they affect humans. (3-4) 5

BIO 1504 Human Anatomy and Physiology I: An introductory course in the normal structure and function of human body systems, emphasizing inter-relationships of each. Upon completion of this course, students should be able to demonstrate knowledge of the following: cellular biology, tissues, skeletal, muscular, and nervous systems, and sense organs. (3-4) 5

***BIO 1505 Human Anatomy and Physiology II:** A continuation of BIO 1504 with emphasis on the following systems: circulatory, respiratory, digestive, endocrine, reproductive, and urinary, including the mechanisms of acid base and water-electrolyte balance.
*Prerequisite: BIO 1504, or Departmental permission. (3-4) 5

BIO 2134-2534 Selected Topics in Biology: These courses are offered in order to comply with the needs of students who want subject matter not included in other courses

offered by the Department. Upon completion of this course, students should have an understanding of such courses as: Animal Behavior, Marine Biology, General Ecology, Embryology, Histology, Exercise Physiology, Parasitology, Physiology, Crop Plants, Local Flora, Plant Anatomy, and Plant Morphology. 1-5 hrs. credit - TBA

BIO 2300 Genetics: A study of the fundamental laws of heredity with emphasis on human heredity. Having completed this course, students should be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

BIO 2304 Human Nutrition: Upon completion of this course, students should be able to identify sources and functions of nutrients and relate them to the life cycle, and have a basic understanding of principles of interviewing relating to nursing. (3-0) 3

BIO 2308 Nutrition and the Young Child: Upon completion of this course, students should be able to identify sources and functions of nutrients; describe and use standards for evaluating the nutritional adequacy of food intake; describe factors which influence food habits; outline food requirements of young children; plan menus as well as methods of food preparation appropriate for children; and write nutrition education activities for the child and for the parent of young children. (3-0) 3

BIO 2500 Introduction to Entomology: A basic course designed to give a practical approach to the study of insects. Upon completion of this course, students should be able to demonstrate a knowledge of the fundamentals of insect identification, development, food habits, and controls. (3-4) 5

BIO 2501 Ornithology: This is an introduction to the study of birds. Upon completion of this course, students should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and the identification of birds. (3-4) 5

BIO 3301 Basic Health Science I: An introductory course in the normal structure and function of the human body. Upon completion of this course, students should be able to discuss the anatomy, physiology, and interrelationships of the following: cells-tissues, skeletal system, muscular system, circulatory system, respiratory system, and urinary system. (3-0).3

***BIO 3302 Basic Health Science II:** A continuation of BIO 3301 with emphasis on the following: nervous system, sense organs, integumentary system, digestive system, endocrine system, and reproductive system.
*Prerequisite: BIO 3301 or Departmental permission. (3-0) 3

BIO 3404 Cardio-Pulmonary Anatomy and Physiology: A specialized course to provide an in-depth study of cardiovascular and respiratory functions and their interrelationships. Upon completion of this course, students should be able to demonstrate an understanding of circulatory and respiratory anatomy and physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

BIO 9500: See page 46.

BLET-Basic Law Enforcement Training – See program description.

BUS – Business

BUS 1500 Introduction to Business: Upon completion of this course, students should be able to describe the legal and economic environment of business; discuss the basic types of internal and external business forms; describe the functions of business, and describe the role of management in the business enterprise. (5-0) 5

BUS 2304 Business Law I: This course covers legal environment and common law contracts. Upon completion of this course, students should be able to explain the sources of American law and how laws are classified; outline the structure of the federal and state court systems, differentiate business torts and crimes, list the steps in the progress of a lawsuit; discuss the attorney-client relationship; list the elements of a common law contract and understand the artificial legal language involved; recognize rights of third parties to contracts; analyze when a contract has been breached; and understand methods of terminating rights under a contract. (3-0) 3

***BUS 2305 Business Law II:** This course covers the Uniform Commercial Code and other business laws. Upon completion of this course, students should be able to demonstrate a working knowledge of commercial paper and secured transactions; recognize and define a sale of goods; differentiate between common law contracts and those under Article II of the UCC; apply various common terms such as FOB, COD, sale or return, sale on approval to various situations and recognize which party has the risk of loss, as well as being able to apply the rules for performance of a sales contract; recognize and distinguish various types of warranties; discuss the various terms and forms applicable to secured transactions; distinguish negotiable instruments from ordinary contracts; recognize a holder in due course; and demonstrate a general knowledge of bank-customer relations.
*Prerequisite: BUS 2304 or consent of Department Head. (3-0) 3

***BUS 2306 Business Law III:** Upon completion of this course, students should be able to distinguish agency from other relationships; list the different ways to create the agency relationship; define the various types of authority; list the various ways the agency relationship can be terminated; list the classifications of property and their main characteristics; enumerate the classifications of bailments; list and explain the rights and liability of partners; define the causes and grounds for dissolution of the partnership; distinguish a corporation from other forms of business organizations; discuss dissolution, merger, consolidation and other corporate acquisitions; list the various rights of stockholders; differentiate between a stockholder's role and a director's role in corporate management; and study the Securities Act of 1933, the Securities Exchange Act of 1934, and antitrust legislation.
*Prerequisite: BUS 2304 or consent of Department Head. (3-0) 3

BUS 3300 Human Relations: This course is primarily designed to allow students to learn and practice skills which

enhance effective interactions in the work environment. Upon completion of this course, students should be able to define and trace the development of the human relations field; communicate effectively; explain and apply motivational techniques; understand and apply their own creative potential; recognize job stress and develop strategies for coping with stress; resolve various job conflicts; discuss ego states and life scripts; and describe the behavioral implications of a personality profile. (3-0) 3

***BUS 3304 Business Statistics I:** Upon completion of this course, students should be able to differentiate between descriptive and inferential statistics; calculate measures of central tendency and variability; employ "z" tables; discuss probability theory and its uses; construct and use sampling distributions.
*Prerequisite: FIN 3315 or FIN 3330 or MAT 3504. (3-0) 3

***BUS 3305 Human Relations II:** Upon completion of this course, students should be able to explain the dynamics of working within groups; conduct a meeting effectively; counsel a subordinate about a problem and develop a plan for improvement; explain the various leadership styles and select the appropriate one for given situations; identify strategies for coping with problems in bureaucracies; summarize a variety of programs designed to improve quality of work life; describe strategies for overcoming resistance to change; and develop a career plan.
*Prerequisite: BUS 3300. (3-0) 3

***BUS 3308 Business Statistics II:** Upon completion of this course, students should be able to use statistical methods to solve business and industrial problems in the areas of manufacturing, marketing, and production; and use a personal computer and a calculator to reduce raw data to useable and understandable form in order to predict or make other business decisions.
*Prerequisite: BUS 3304. (3-0) 3

BUS 4340 Consumer Credit: Upon completion of this course, students should be able to discuss the role of credit in the American economy; list the major characteristics of retail revolving, charge and installment credit; discuss the principles of consumer credit management; describe the process of credit investigation; discuss the role of various consumer credit institutions; and apply knowledge to the development of a "case" consumer credit Department. (3-0) 3

BUS 4341 Commercial Credit: Upon completion of this course, students should be able to differentiate between consumer and commercial credit; discuss business use of credit; define the role of the commercial credit manager; list and discuss the sources of credit information; differentiate between various credit institutions; analyze financial statements; and develop a set of credit standards for a business and apply those standards to a "case" commercial credit Department. (3-0) 3

***BUS 4201 Business Administration Cooperative Education I:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate interest and performance in the given occupational field and potential success and advancement in that occupation; access realistically the general requirements and responsibilities of successful employment, and evaluate the capacity to comply with such demands; and analyze the job market in a chosen career prior to entering that career as a full-time employee.
*Prerequisite: Permission of Co-Op Office (2-0) 2

***BUS 4202 Business Administrative Cooperative Education II:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate interest and performance in the given occupational field and potential success and advancement in the occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate the capacity to comply with entering that career as a full-time employee.
*Prerequisite: BUS 4201. (2-0) 2

CHM – Chemistry

***CHM 1500 Introductory Chemistry:** An introductory course with laboratory experiences designed for students with little or no background in chemistry. Upon completion of this course, students should be able to demonstrate an understanding of some of the basic concepts of chemistry: measurements, significant figures, structure of the atom, mole problems, bonding, nomenclature, solutions, reactions, and stoichiometry.
*Prerequisite: Placement examination in Math, or MAT 9510, or Departmental permission. (4-2) 5

***CHM 1501 Chemistry for the Health Professions I:** A general chemistry course and introduction to organic chemistry designed for students preparing for a career in nursing, or for liberal arts majors. Upon completion of this course, students should be able to demonstrate an understanding of basic chemical principles such as: structure of the atom, bonding, types of compounds, chemical reactions, stoichiometry, states of matter, solutions, gas laws, equilibrium, acids, bases, buffers, hydrocarbons, and nomenclature.
*Prerequisite: CHM 1500 or Departmental permission. (4-2) 5

***CHM 1502 Chemistry for the Health Professions II**: A continuation of CHM 1501 in which properties and reactions of the functional groups in organic chemistry are studied; properties, structures and roles of the four classes of biochemical compounds. Upon completion of this course, students should be able to demonstrate an understanding of the chemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes, metabolism, protein synthesis, and the significance of equilibrium in comprehending biochemistry.
*Prerequisite: CHM 1501 or Departmental permission. (4-2) 5

***CHM 1504 General Chemistry I:** A study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course, students should be able to apply the scientific method in problem solving; demonstrate the basic laboratory techniques for successfully and safely conducting chemical experiments; solve problems and demonstrate an understanding and appreciation of certain chemical laws, principles, concepts and the-

ories such as metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theories of chemical bonding, and nomenclature.
Note: The following students should take the CHM 1504, CHM 1505, CHM 1506 sequence: students with major emphasis in chemistry, forestry, agriculture, dentistry, optometry, paramedics, medics, medicine, pharmacy, nursing (B.S.degree), geography, textiles, chemical engineering, geology, biology, and any other areas of science and math.
*Prerequisites: Placement examination, or a grade of C or better in CHM 1500, or Departmental permission. (3-4) 5

***CHM 1505 General Chemistry II:** A continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course, students should be able to solve problems dealing with systems in equilibrium; solve solution problems; recognize and apply various acid-base theories to chemical equations; demonstrate an understanding of such things as redox potentials, reactions kinetics, colligative properties of solutions, and enthalpy changes.
*Prerequisite: CHM 1504 or Departmental permission. (3-4) 5

***CHM 1506 General Chemistry III:** A continuation of CHM 1505 with emphasis on ionic equilibrium and relating chemical properties to atomic and molecular structures. Includes introduction to organic chemistry. Enthalpy and entropy changes are related to both ionic and molecular reactions. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. Upon completion of this course, students should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with pH, hydrolysis, Ksp, buffers, redox titration, and acid-base titrations. Students should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving quantitative analysis.
*Prerequisite: CHM 1505 or Departmental permission. (3-4) 5

***CHM 2124-2524 Special Problems:** An advanced problem course of independent study in which a student and advisOr select an appropriate topic for laboratory and library research in the field of chemistry. After completing this course, students should be able to conduct a successful library and lab research project in chemistry, and present the results in proper written form.
*Prerequisite: CHM 1506 or Departmental permission.
1 to 5 class hrs/week. 1 to 5 hrs credit.TBA

***CHM 2414 Introductory Organic Chemistry:** An introductory organic chemistry course with a review of certain laws, principles and facts from general chemistry that are fundamental to organic chemistry, such as atomic structure, bonding, and acid-base theories. It is a survey course for both the science and the non-science student. Synthesis of selected compounds and their characterizations will be completed in lab with an introduction to stereochemistry. Chemical and physical properties of various compounds and common functional groups are related to their structure. Nomenclature and practical applications to related fields are emphasized. Upon completion of this course, students should have enough basic knowledge of organic chemistry to be successful in a higher level organic course; to apply the learning to other fields of study such as biology; to relate the knowledge to the real world, and to complete basic organic lab experiments successfully in a safe manner.
*Prerequisite: CHM 1505 with a C grade or better, or Departmental permission. (3-2) 4

***CHM 2604 Quantitative Chemical Analysis:** A quantitative analysis course using both the traditional volumetric and gravimetric method along with instrumentation. The instruments used may include calorimeter, potentiometer, infrared, UV-visible, and atomic absorption. Chromatography will be used as a separation technique. Much emphasis will be placed on problem-solving skills and safe lab techniques.
*Prerequisite: CHM 1506 or Departmental permission. (3-6) 6

***CHM 2614 Organic Chemistry I:** A systematic study of the theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After completing this course, students should be able to name the common members of the families of organic compounds and describe their chemical and physical properties; demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms; perform common organic lab experiments in a safe manner using proper techniques; and recognize and describe simple chemical tests for certain functional groups.
Note: Students with major emphasis in science and engineering including: dentistry, optometry, medicine, paramedics, engineering (chemical, petroleum, sanitation, environmental), pharmacy, textiles, chemical technology, chemistry, and biology should take the organic sequence.
*Prerequisite: CHM 2414 or Departmental permission. (4-4) 6

***CHM 2615 Organic Chemistry II**: A continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course, students should be able to identify some unknown organic compounds using NMR, UV, IR, and mass spectra. They should be able to recognize the chemical properties of the common functional groups and should have well-developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds.
*Prerequisite: CHM 2614 or Departmental permission. (4-4) 6

***CHM 3501 Respiratory Care Chemistry**: A one-quarter course designed for students in the Respiratory Care program. It is basically general chemistry with focus on biochemical applications. Upon completion of CHM 3501, students should be able to demonstrate a working knowledge of general chemistry, especially as it applies to respiratory care topics including bonding, states of matter, solutions, gas laws, equilibrium, acids and bases, buffers, and electrochemistry.
*Prerequisite: CHM 1500 or Departmental permission.(4-2) 5

***CHM 3502 Dental Hygiene Chemistry**: A one-quarter course designed for Dental Hygiene students. It consists of general chemistry, introductory organic and biochemistry.

Upon completion of CHM 3502, students should be able to show a general understanding of the structure of the atom, bonding, influence of intermolecular forces on properties, acids and bases, equilibrium, buffers, hydrocarbons, and groups in organic chemistry as well as some biochemistry with a special emphasis on carbohydrates.
*Prerequisites: CHM 1500 or Departmental permission. (4-2) 5

CHM 9500: See page 46.

CIV – Civil Engineering And Surveying Technology

CIV 3101 Introduction to Civil Engineering/Surveying Technology: Upon completion of this course, students should be able to employ the services and personnel available at the College and in the Civil Engineering Technology Program; assess career paths and continuing education opportunities; examine the benefits of membership in professional organizations, including the Student Chapter of Associated General Contractors (AGC); and evaluate employment practices and needs through guest speakers or panel discussions. (1-0) 1

CIV 3306 Construction Materials and Methods: Upon completion of this course, students should be able to identify construction materials and their physical properties; discuss the manufacturing processes used to produce common building materials; identify types of construction equipment and their application; explain the methods used to assemble building components; and, through site visitation, evaluate the actual application of construction techniques. (2-3) 3

***CIV 3314 Structural Drafting I (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be implemented to produce structural drawings; draw a foundation plan and schedule; draw various building components using CAD (poured-in-place concrete, precast concrete, and structural steel); and have a working knowledge of how CAD may be implemented for "shop" detail drawings.
*Prerequisite: ARC 3314 or equivalent. (1-6) 3

***CIV 3315 Structural Detailing (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be implemented for Structural "shop" Detail Drawings; explain the modifications which must be made to CAD for structural detailing; using CAD, prepare structural steel "erection" drawings and "shop" drawings; and, using CAD, prepare Reinforced Concrete Placement Drawings.
*Prerequisite: ARC 3314 or equivalent, ARC 4339. (1-6) 3

***CIV 3317 Civil Drafting (CAD):** Upon completion of this course, students should be able to explain how a CAD System can be implemented for civil drafting; learn surveying calculations and mapping by computerized systems; and solve earthwork, hydrology, hydraulics, and highway design problems by implementing CAD Systems.
*Prerequisite: CIV 4407, ARC 3314, or equivalent (1-6) 3

***CIV 3407 Surveying I:** Upon completion of this course, students should be able to measure distances with a surveyor's tape or an electronic distance measuring device; apply geometric principles to correct a taped distance for a standardized measurement; perform the calculations and field operations for differential and profile leveling; use a transit for the measurement of horizontal and vertical angles; calculate bearings and azimuths; and collect data and plot a contour map.
*Prerequisite: MAT 3507, ARC 3334. (2-6) 4

***CIV 3414 Statics and Strength of Materials - Basic:** Upon completion of this course, students should be able to apply correct problem-solving procedures to engineering technology problems; understand the basics of forces and moments; draw free-body diagrams to maintain static equilibrium; calculate external forces and reactions; solve for internal forces in trusses and beams; apply the fundamentals of static friction, soil, and hydrostatic pressures to problems; and become familiar with the microcomputer's usefulness as a problem-solving tool.
*Prerequisite: MAT 3507. (3-3) 4

***CIV 3415 Statics and Strength of Materials - Advanced:** Upon completion of this course, students should be able to identify types of stresses that develop in structures; compute deformation and strain in bodies due to stress systems acting on the body; construct shear and bending moment diagrams of beams; locate centroids of composite areas; compute the rectangular moment of inertia of an area about various axes; solve for bending and shearing stresses in beams, compute the deflection in beams; calculate stresses due to combined axial and bending loads; apply Euler's equation to columns; analyze and design welded and bolted connections; and use computer programs as an alternate method of problem solving.
*Prerequisite: CIV 3414. (3-3) 4

***CIV 4227 Microcomputer Applications Project:** Upon completion of this course, students should be able to develop or utilize an existing program for a significant Architectural or Civil Engineering Technology application. Projects will be selected by each student from relevant areas after consultation with the course instructor.
*Prerequisite: EDP 3310, CIV 4425. (1-3) 2

***CIV 4284 Cooperative Work Experience I:** Upon completion of the course, students should be able to demonstrate a positive attitude toward and a knowledgeable understanding of careers in the Civil Engineering Technology industry; and demonstrate results of applied experience to complement class and lab instruction.
*Prerequisite: 45 credit hours earned in residence toward engineering technology degree, and permission of Co-Op Office. (0-0-20) 2

***CIV 4285 Cooperative Work Experience II:** This is a continuation of CIV 4284 Cooperative Work Experience I. Upon completion of this course, the expectations of Co-Op I should be enlarged to derive added benefit from the Civil Engineering Technology industry.
*Prerequisite: CIV 4284 and permission of Co-Op Office. (0-0-20) 2

***CIV 4300 Codes and Contracts:** Upon completion of this course, students should be able to demonstrate a basic understanding of the N.C. commercial and residential building codes; understand the basic procedures for procuring a building permit and inspection of structures in North Carolina; conduct code reviews for commercial and residential struc-

tures; recognize and utilize basic contract terminology; and state the basic principles of contractural relationships.
*Prerequisite: CIV 3306, ARC 4200. (2-3) 3

CIV 4302 Plain Concrete and Asphalt: Upon completion of this course, students should be able to describe the characteristics of coarse and fine aggregates, properties of cement and water suitable for use in Portland Cement Concrete, and properties of asphalt and its uses; design a concrete or asphalt mix based on strength and durability requirements; conduct tests for compressive strength on concrete cylinders and asphalt samples and flexural strength of beams; understand design of formwork for safe placement of concrete; and observe the actual application of concrete and asphalt construction through site and plant visitation. (1-6) 3

***CIV 4305 Construction Estimates:** Upon completion of this course, students should be able to discuss the various bid terms and contract documents as they affect construction; determine the cost of various equipment and methods necessary for construction; complete quantity take-offs of commercial and residential construction; apply pricing to quantity surveys; and use approximate methods for determining building costs.
*Prerequisite: CIV 3306, ARC 4200. (2-3) 3

***CIV 4307 Construction Project Management:** Upon completion of this course, students should be able to define the operations comprising a construction project; establish time estimates for each operation; determine the proper sequence of operations and coordination of building trades; discuss principles of scientific management as related to construction; apply, manually and using a computer, the critical path method and bar charts to construction planning and scheduling; and understand laws and regulations dealing with the construction industry and deal with claims, disputes, change orders, and quality control.
*Prerequisite: CIV 4305. (2-3) 3

***CIV 4314 Surveying VI - Construction and Site Surveying:** Upon completion of this course, students should be familiar with basic site and construction surveying; grid topos, lot corners, building corners, and batterboards covered in class and field exercises; and the location of buildings for architectural and environmental considerations.
*Prerequisite: CIV 4415. (2-3) 3

***CIV 4315 Subdivision Planning and Design:** Upon completion of this course, students should be familiar with mapping principles and their applications in producing topographic, land, hydrographic, and photographic maps and their use in subdivision planning; and use of photogrammetry in subdivision design. Field trips will be made.
*Prerequisite: CIV 4414. (2-3) 3

***CIV 4319 Soils Technology:** Upon completion of this course, students should be able to perform and interpret the results of the Atterburg Limits, Standard and Modified Proctor, and Unconfined Compression Tests; classify soil according to the Unified and AASHTO Classification Systems; list and describe the techniques of subsurface soil exploration; employ weight/mass and volume relationships; and be knowledgeable of the means of finding shear strength, compression capabilities, and inplace density.
*Prerequisite: CIV 3414. (2-3) 3

***CIV 4320 Principles of Hydraulics:** Upon completion of this course, students should be able to identify various properties of fluids; understand and apply the principles of hydrostatic pressures to practical problems; analyze flow characteristics over weirs; and analyze flow characteristics in open channels.
*Prerequisite: CIV 3414. (2-3) 3

***CIV 4407 Surveying II - Route Surveying:** Upon completion of this course, students should be able to lay out foundations and give lines and grades for construction of a building; lay out cross sections of roadways and, from the sections, compute earthwork quantities and construct a Mass Diagram; calculate and stake out horizontal and vertical roadway curves; apply the methods of lines and grades to a roadway design problem; discuss basic theory of photogrammetry and its application; use the County Register of Deeds Office records to research property records and state the requirements for filing of property maps and deeds; discuss the legal aspects of surveying based on the N.C. Manual of Practice; and balance interior angles of a closed polygon traverse and determine closure conditions.
*Prerequisite: CIV 3407. (2-6) 4

***CIV 4408 Surveying III - Boundary Surveying:** Upon completion of this course, students should be able to collect data for a closed traverse using a theodolite and an EDM; balance and plot a closed polygon traverse; tie traverse into the State Plane Coordinate System; locate topography within traverse by stadia and use of plane table; compute areas by coordinate method and double meridian distance method; use rectangular coordinates to inverse bearings and lengths; and determine true meridian by solar or polaris observation.
*Prerequisite: CIV 4407. (2-6) 4

***CIV 4414 Surveying IV - Advanced Surveying:** Upon completion of this course, students should be able to utilize theories and practice of land surveying including subdivisions, the use of the North Carolina Coordinate System, and triangulation, trilateration, and astronomic observation; use the electronic distance device and precision theodolites; and discuss basic elements of photogrammetry. Night labs in this course will be required for Polaris and East-West star observations.
*Prerequisite: CIV 4408. (3-3) 4

***CIV 4415 Surveying V - Topographic Mapping:** Upon completion of this course, students will be proficient in the methods of making topographic surveys; the use of aerial photographs for mapping purposes; interpretation of aerial photographs; production of photomaps; photogrammetric calculations; and ground control. Lab will emphasize field and office techniques of preparing topographic maps.
*Prerequisite: CIV 4414. (3-3) 4

***CIV 4425 Structures I:** Upon completion of this course, students should be able to identify the various types and behavior of structures under load; identify the properties of structural steel relevant to structural design; design typical steel beams, columns, tension members and connections; identify the properties of wood relevant to structural design; and design typical wood beams, columns, and connections.
*Prerequisite: CIV 3415. (3-3) 4

***CIV 4426 Structures II:** Upon completion of this course, students should be able to discuss the properties of masonry as it relates to structural design; apply code requirements for

the design of masonry structures; discuss the properties of reinforced concrete as it relates to structural design; identify the general requirements for reinforced concrete structures; design reinforced concrete beams and columns; discuss general considerations of foundation design and behavior; and apply reinforced concrete design concepts to the design of shallow bearing foundations.
*Prerequisite: CIV 4425, CIV 4319. (3-3) 4

COE – Cooperative Education

COE 3100 Introduction to Cooperative Education (Career Search Skills): Upon completion of this course, students should be able to prepare a quality resume, cover letter and application; demonstrate effective techniques for researching a prospective employing firm; demonstrate effective interviewing skills through participating in mock interviews; demonstrate knowledge of successful follow-up procedures; develop and awareness of the ethics and culture of work; and demonstrate knowledge of cooperative work experience policies and procedures. (1-0) 1

Computer Engineering Technology – See ELN

Computer and Office Information Systems – See EDP

CSC – Correctional and Juvenile Services

CSC 3300 Law and Policies in Corrections: Upon completion of this course, students should be able to diagram the organization of the Division of Prisons; list inmate conduct rules and describe disciplinary procedures; describe the classification process for inmates; describe the method for proper contact and communication with the public and courts; identify treatment procedures; outline standard procedures in case of a major emergency; list and describe the duties and general orders for Correctional Officers; describe the administrative remedy procedure for inmates; demonstrate an understanding of the impact of recent court rulings on policies; and explain ethics and confidentiality rulings. (3-0-0) 3

CSC 3500 Introduction to Corrections: Upon completion of this course, students should be able to demonstrate an understanding of corrections, probation and parole; describe how corrections, probation and parole fit into the criminal justice system; discuss the conflicting ideologies of punishment, treatment, and prevention; identify the different correctional systems of State and Federal governments; and explain the various job positions available in this field. (5-0-0) 5

CSC 3501 Correctional Counseling and Treatment: Upon completion of this course, students should be able to define classification; list the differences between classification, counseling, and correctional treatment; describe the differences and similarities used in institutional and community programs for adults and juveniles; identify the need for, and controlling, incarcerated clients; list the methods of measuring the effectiveness and problems of a variety of programs; identify the programs associated with the treatment of the mentally retarded, mentally ill, substance abuser, and of HIV-infected clients in the correctional setting; and describe the demands placed upon staff and clients, and the interactions that result. (5-0-0) 5

CSC 3504 Juvenile Justice System: Upon completion of this course, students should be able to cite the history and evolution of the Juvenile Justice System; outline the present-day Juvenile Court process and procedure; identify the characteristics of juvenile offenders and their subculture; depict the process from arrest to final disposition for juvenile offenders; be acquainted with the variety of dispositions; differentiate between the adult and juvenile justice systems while understanding their ramifications; develop alternatives to incarceration; describe the conflicting theories and ideologies of treatment and prevention; identify the need for professional personnel and their respective manpower requirements; and develop the necessary attitude, empathy, and knowledge to assist in working in and with the juvenile justice system. (5-0-0) 5

CSC 3505 Victimology: Upon completion of this course, students should be able to explain why many victims do not report crimes; compare victims of specific crimes; explain the development of victimology as a field of study; identify victims' vulnerability and their share in the responsibility for crimes; identify and state the victims' role in the Criminal Justice System; evaluate methodological measuring of victimization; describe at least five victim assistance programs/services; identify crime prevention techniques; explain existing and pending victims; rights legislation; and develop recommendations to improve conditions for victims. (5-0-0) 5

CSC 3507 Criminal Personality and Behavior: Upon completion of this course, students should be able to identify the various viewpoints of criminal behavior as described by the sciences of psychology, sociology, and psychiatry; develop a clear definition of criminal behavior; identify behavior that is normal versus that behavior which is considered antisocial; prepare a profile of a criminal type of person as defined by society; identify and evaluate treatment methods and define their rationale in dealing with criminal offenders; compare past theories of causes of criminal behavior to current research; and identify the different personalities of the following: the mentally ill, aggressively violent, homicidal, sexual offender, and female offender. (5-0-0) 5

CSC 3508 Drugs, Society, and Crime: Upon completion of this course, students should be able to identify the significant historical events in the United States that have caused an increase in drug use and abuse; define the chemical composition of drugs used by society; identify the various drug classifications, list examples of each and describe their uses; define psychoactive and non-psychoactive drugs and identify, and describe the North Carolina Controlled Substances Act and the Drug Paraphernalia Act; describe various ways drug use affects our society and increases the incidence of crime; and identify the drugs most commonly sold illegally. (5-0-0) 5

CSC 3509 Court Intake Procedures: Upon completion of this course, students should be able to conduct an interview with clients and the public; describe the structure and relationships of the various North Carolina Courts; show by demonstration proper courtroom decorum and etiquette; prepare a

written pre-sentence report; make an oral pre-sentence report; prepare a technical report and summary; and list the proper sequence and procedures for filing these reports. (5-0-0) 5

CSC 3510 Women in the Criminal Justice System: Upon completion of this course, students should be able to discuss an overview of the history of women in the criminal justice system; identify the crimes most often committed by women in both victimless and violent crimes; state the difference and similarities between women and men offenders during arrest, trial, and sentencing in prison and treatment; list the difficulties of incarcerated mothers, conditions of prisons, and women offenders in probation, parole, and community corrections; describe theories of why women commit crimes; and identify the roles of women in the criminal justice system as judges, attorneys, police, correction officers, and problems they face. (5-0-0) 5

CSC 3520 Jail Operations and Management: Upon completion of this course, students should be able to identify the North Carolina General Statutes for the minimum standards for jails; describe the basic standard operating procedures for local confinement facilities; describe the procedures for persons brought to the jail for processing into the system; demonstrate the ability to search an incoming and resident prisoner, and describe the procedures for a shakedown of cells and general areas; identify the major responsibilities the professional jailer has toward society, the administration, and the inmates; list at least three medical crisis situations and what is required to respond; list at least five precautions when transporting prisoners; profile a composite jail suicide; and outline the procedure for medical care in jails. (5-0-0) 5

***CSC 3524 Probation and Parole:** Upon completion of this course, students should be able to discuss the origins of probation from common law through the present statutes; explain the legal rights of prisoners; describe how ordinary political and civil rights may be taken away as a result of a criminal conviction and how they may be restored; describe probation and parole revocation procedures from arrest, to hearing, through judicial review; discuss the types and kinds of conditions for probation and parole; discuss group treatment programs; and list and describe the various community resources available for the probationer and parolee.
*Prerequisite: CSC 3500. (5-0-0) 5

CSC 4514 Community Based Programs: Upon completion of this course, students should be able to name and describe a wide variety of successful programs used by the courts and corrections; identify how community resources are mobilized to respond to the needs of both offenders and citizens; analyze factors that inhibit or aid the success of a program; describe the relationship between the program, the police, courts, and public; define the problems of funding politics, and staff competency; explain work release, furloughs, mutual agreement contracts, and halfway house programs as alternatives to incarceration. (5-0-0) 5

DAN – Dance

Also see HPE

^Meets humanities requirement.

DAN 1154 Tap Dance I: Upon completion of this course, students should be able to demonstrate the correct rhythms used in basic tap steps at the barre, in the center, and traveling step (including turns), and demonstrate an understanding of basic tap terminology. (0-3) 1

***DAN 1155 Tap Dance II:** Upon completion of this course, students should be able to demonstrate an understanding of correct rhythms and body placement in executing all elementary-level tap steps.
*Prerequisite: DAN 1154. (0-3) 1

***DAN 1156 Tap Dance III:** Upon completion of this course, students should be able to demonstrate advanced elementary-level routines, in addition to more complex rhythm patterns.
*Prerequisite: DAN 1155. (0-3) 1

DAN 1157 Jazz Dance I: Upon completion of this course, students should be able to demonstrate an understanding of isolations and coordination exercises as they relate to basic jazz techniques. Special attention is given to various rhythms. (0-3) 1

***DAN 1158 Jazz Dance II:** Upon completion of this course, students should be able to demonstrate a knowledge of more complex jazz movements and theatrical jazz styles.
*Prerequisite: DAN 1157. (0-3) 1

***DAN 1159 Jazz Dance III:** Upon completion of this course, students should be able to demonstrate a knowledge of syncopated rhythms and stylized improvisation as used in jazz dance.
*Prerequisite: DAN 1158. (0-3) 1

DAN 1184 Modern Dance I: Upon completion of this course, students should have acquired an understanding of the elements of dance with emphasis on techniques, requiring a basic degree of skill in performing simple exercises on the floor, at the barre, and in center floor. (0-3) 1

***DAN 1185 Modern Dance II:** Upon completion of this course, students should have acquired mastery of modern dance technique, requiring an elementary degree of skill and be able to perform simple movement combinations in center floor.
*Prerequisite: DAN 1184. (0-3) 1

***DAN 1186 Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance.
*Prerequisite: DAN 1185. (0-3) 1

DAN 1194 Ballet I: Upon completion of this course, students should have acquired an understanding of body placement, the dancer's way of counting music (Dalcroze), and classroom discipline. They should recognize the names of steps and be able to perform basic movements at the barre. (0-3) 1

***DAN 1195 Ballet II:** Upon completion of this course, students should have knowledge of basic barre exercises, including simple turns, with an emphasis on mastery of skills.

Center work will include porte des bras and elementary allegro steps.
*Prerequisite: DAN 1194. (0-3) 1

***DAN 1196 Ballet III:** Upon completion of this course, students should have acquired a moderate level of proficiency in ballet technique at the elementary level. Emphasis will be placed on body positions and allegro work.
*Prerequisite: DAN 1195. (0-3) 1

***DAN 1197 Ballet Pointe Work I:** Upon completion of this course, students should have acquired a knowledge of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes.
Note: This class may be repeated for six successful completions to meet degree requirements.
*Prerequisite: DAN 2194 and permission of instructor. Corequisite: To be taken with an intermediate technique class; see the Department head for a current list of these classes. (0-3) 1

DAN 1280 Dance for Musical Theatre: Upon completion of this course, students should be able to demonstrate alignment fundamentals and differences in styles basic to jazz, tap, and folk dance through classroom performance. (0-4) 2

DAN 1290 Dance Sources: Upon completion of this course, students should be able to demonstrate in writing an understanding of the geographical, historical, and social background of specific countries; demonstrate through performance the types and styles of dances characteristic of these countries. (1-2) 2

DAN 1384 Dance History I: This is a historical survey of dance until 1500. Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of how these dance forms were established historically, the role of the "dancer" in the primitive cultures, and how these forms have influenced dance in the Twentieth Century. (3-0) 3

DAN 1385 Dance History II: This is a historical survey of dance as a theatre art form from 1500 until 1970. Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of dance as a theatre art and how the personalities which have influenced the establishment of this form were shaped by our Western cultural heritage. (3-0) 3

DAN 1386 Dance History III: Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of an aesthetic system which enables them to identify basic creative principles in all dance forms and how our cultural perspective influences choreographic choices. (3-0) 3

***DAN 2184 Intermediate Modern Dance I:** Upon completion of this course, students should have made significant progress in this technique, and have acquired an understanding of kinesthesis (body energy).
*Prerequisite: DAN 1186. (0-3) 1

***DAN 2185 Intermediate Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance.
*Prerequisite: DAN 2184. (0-3) 1

***DAN 2186 Intermediate Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at an intermediate level; have a firm working knowledge of the elements of dance; and been introduced to different dance selections representative of the modern dance repertoire.
*Prerequisite: DAN 2185. (0-3) 1

***DAN 2194 Intermediate Ballet I:** Upon completion of this course, students should have made significant progress in technique; and achieved a performing proficiency of set patterns.
*Prerequisite: DAN 1196. (0-3) 1

***DAN 2195 Intermediate Ballet II:** Upon completion of this course, students should have acquired further mastery of ballet technique and the application of variables affecting performance.
*Prerequisite: DAN 2194. (0-3) 1

***DAN 2196 Intermediate Ballet III:** Upon completion of this course, students should have acquired mastery of ballet technique at an intermediate level, as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase).
*Prerequisite: DAN 2195. (0-3) 1

***DAN 2284 Choreography I—Improvisation:** Upon completion of this course, students should be able to complete exercises utilizing spontaneous movement which creatively apply elementary principles of composition.
*Corequisite: Must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes. (0-4) 2

***DAN 2285 Choreography II—Fundamentals of Composition:** Upon completion of this course, students should be able to demonstrate the elements of time and space as they relate to the fundamentals of dance composition.
*Prerequisite: DAN 2284; Corequisite: Must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes. (0-4) 2

***DAN 2286 Choreography III—Dance Forms:** Upon completion of this course, students should be able to demonstrate the use of form within a dance and various techniques of manipulating a form.
*Prerequisite: DAN 2285 or permission from instructor; corequisite: Must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes. (0-4) 2

***DAN 2384 Dance Seminar:** Upon completion of this course, students should be able to demonstrate, through video performance, a basic knowledge of all aspects of the creation of a new ballet. The new work will be costumed and rehearsed for performance the following quarter.
*Corequisite: To be taken in conjunction with one or more technique classes; see the Department Head for a list of these classes. (2-2) 3

***DAN 2388 Dance Production I:** Upon completion of this course, students should be able to demonstrate, through performance, a basic knowledge of both the artistic and technical aspects of dance production to include auditions,

rehearsals, and performances before an audience. In addition to performing, students will have actively participated in lighting design and operation, costume design and construction, publicity, or operation of box office activities.
Note: This class may be repeated for six successful completions to meet degree requirements.
*Prerequisite: Audition and permission of instructor; Corequisite: To be taken in conjunction with technique classes; see the Department head for a list of these classes. (0-12) 3

DEA – Dental Assisting

***DEA 5104 Dental Assistant Seminar:** This course is designed to discuss and evaluate clinical experiences gained during Dental Office Practice IIA. Emphasis will be placed on personal responsibilities as a practitioner, employee-employer relations, and problem-solving techniques. Upon completion of this course, students should be able to develop personal responsibilities and demonstrate problem-solving techniques.
*Prerequisite: Fourth quarter standing in the Dental Assisting Program. (1-0-0) 1

***DEA 5202 Oral Pathology:** Upon completion of this course, students should be able to describe the basic pathological processes and physical manifestations of selected diseases, their association with the oral cavity, and common pathological conditions of the teeth and oral cavity. Emphasis will be placed on the differences between normal and abnormal tissues.
*Prerequisite: DEA 5400. (2-0-0) 2

***DEA 5203 Office Emergencies and Pharmacology:** Upon completion of this course, students should be able to state dosage, methods of administration, and storage of common drugs and medicaments used in the dental office and perform first aid and emergency care for the patient in the dental office. Emphasis is placed on the means and methods of preventing dental office emergencies, as well as on the administration of lifesaving treatments. Students will become certified in cardiopulmonary resuscitation.
*Prerequisite: DEA 5400. (2-0-0) 2

***DEA 5234 Dental Office Management:** Students will be exposed to the principles and procedures related to managing a dental office. Emphasis will be placed on office management, communication, and telephone techniques, clinical records, appointment control, records management and filing systems, bookkeeping, dental plans and insurance, collections, inventory control, resume, and job interview preparation.
*Prerequisite: Third quarter standing in the Dental Assisting program. (2-2-0) 3

***DEA 5303 Oral Health Education:** Upon completion of this course, students should be able to implement a patient oral health program which will include oral hygiene instruction, methods of motivation, concepts of teaching, utilization of educational media, fluoridation as a preventive measure, and nutritional counseling concepts. Some emphasis will be placed on community health programs.
*Prerequisite: Second quarter standing in the Dental Assisting program. (2-0-0) 3

***DEA 5307 Infection Control:** This course is designed to provide students with necessary infection control procedures. Upon completion of this course, students should be able to describe, recognize, and identify infectious diseases, disease transmission, aseptic techniques, infection control procedures, universal precautions, task categories, biohazard waste management, and OSHA guidelines as they pertain to the dental environment. Emphasis will be placed on microbiology, aseptic techniques, sterilization, disinfection, and implementation of infection control procedures.
*Prerequisite: Acceptance into the Dental Assisting program. (3-0-0) 3

***DEA 5400 Anatomy for Dental Auxiliaries:** Upon completion of this course, students should be able to recall facts and specifics regarding the general anatomy of the body and basic concepts of the normal functions of body systems; identify oral structures with special emphasis on the identification of the primary and permanent dentition; identify the bones, muscles, blood, lymph, and nerve supply of the head and neck region; and identify landmarks of the skull.
*Prerequisite: Acceptance into the Dental Assisting program. (4-0-0) 4

***DEA 5425 Clinical Procedures II:** This course is a continuation of Clinical Procedures I and is designed to further prepare the student in chairside dental assisting procedures with major emphasis on the role of the dental assistant in various dental specialties including endodontics, periodontics, orthodontics, prosthodontics, pediatric dentistry, and oral surgery. Upon completion of this course, students should be able to identify and effectively handle dental equipment, instruments, and procedures involving the various specialties.
*Prerequisite: Third quarter standing in the Dental Assisting program. (3-2-0) 4

DEA 5502 Introduction to Dental Assisting: Upon completion of this course, students should know the purpose, history and progress of dentistry; understand all the laws and ethics governing the dental profession; identify members of the dental health team, their education, training, function, and respective professional associations, demonstrate principles and procedures related to dental operatory equipment, instruments, sterilization, oral evacuation, instrument transfer and chairside dental assisting techniques with emphasis on four-handed dentistry.
*Prerequisite: Acceptance into the Dental Assisting program. (2-6-0) 5

***DEA 5543 Dental Office Practice I:** This course includes practice as a chairside and coordinating assistant in CPCC's Central Campus Dental Clinic. Upon completion of this course, students should be able to perform at chairside with dentist and patient in general dentistry procedures; demonstrate the ability to apply classroom theory in the dental clinic in the areas of instrument transfer, oral evacuation, operatory preparation, radiology, sterilization, and laboratory procedures; and demonstrate the ability to manage the clinic while functioning as the coordinating assistant.
*Prerequisite: Third quarter standing in the Dental Assisting program. (0-0-15) 5

***DEA 5544 Dental Office Practice IIA:** Students will rotate through selected community specialty offices, the Central Piedmont Dental Clinic and the Carolinas Medical Center Dental Clinic, during the fourth quarter of the program. The program faculty will plan students' experiences so that they

will be exposed to all facets of the dental office. Upon completion of this course, students should be able to apply all classroom theory and perform skills acquired in the dental office at competency level.
*Prerequisite: Fourth quarter standing in the Dental Assisting program. (0-0-15) 5

***DEA 5545 Dental Office Practice II B:** DEA II B is an integral part of DEA 5544 and carries the same prerequisite, objectives, activities, and course grading. (0-0-15) 5

***DEA 5724 Clinical Procedures I:** During this course, students will utilize lecture, lab, and clinical experiences in order to become competent in chairside assisting in general dentistry. Upon completion of this course, students should be able to identify and effectively handle various types of dental equipment and instruments utilized in general dentistry; demonstrate proficiency in preparation of dental materials, assembling an anesthesia syringe, rubber dam placement and removal, matrix and wedge placement and removal; and identify basic knowledge in general dentistry procedures.
*Prerequisites: DEA 5502, DEA 5601, CPR certification. (2-6-6) 7

***DEA 5601 Dental Materials:** Upon completion of this course, students should be able to demonstrate a knowledge of the theory of intra- and extra-oral materials on written and practical exams. Students must be able to demonstrate a sufficient level of skill in the laboratory and clinical application of routinely-used dental materials. Through the integration of lecture and laboratory experience, students must be able to select and manipulate materials for any given procedure properly.
*Prerequisite: Second quarter standing in the Dental Assisting program. (3-6-0) 6

***DEA 5602 Dental Radiology:** Upon completion of this course, students should know the rationale and utilize methods for protecting the patient and operator from ionizing radiation; know the principles involved in the production of x-rays; correctly identify parts of the dental x-ray unit and discuss the function of these parts; be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intraoral techniques; identify correctly and be familiar with extraoral techniques; be able to identify various processing equipment; process films in both the wet tanks and automatic processor; identify correctly anatomical landmarks; select appropriate film mounts and correctly mount a full series of radiographs; and recognize errors in the placement, exposure and processing, and be able to correct them.
*Prerequisite: Acceptance into the Dental Assisting program. (3-6-0) 6

DEN – Dental Hygiene

***DEN 3202 Head and Neck Anatomy:** Upon completion of this course, students will be able to name and locate the major bones and landmarks of the skull; name and locate the major muscles of mastication and facial expression, describing the action of these muscles; describe the circulation of the blood in the head and oral region; locate the oral structures in the various divisions of the trigeminal nerve supply; list the oral structures each division affects, and describe the correct areas to administer local anesthetic to affect a specific oral structure.
*Prerequisite: DEN 3401. (2-0-0) 2

***DEN 3203 Office Emergencies:** Students will learn the means and methods of preventing office emergencies and the administration of life-saving treatments.
*Prerequisite: First Aid and CPR certification. (2-0-0) 2

DEN 3223 Dental Health Education: Upon completion of Dental Health Education, students will be able to implement individual plaque control programs, and demonstrating educational methods and concepts; develop visual materials and stimulate individual behavior change via effective communication skills and motivational techniques; and counsel individuals on oral physiotherapy, fluorides, accident prevention, smoking cessation, and use of sealants. (1-2-0) 2

***DEN 3300 Introduction to Dental Anatomy:** This is a Dental Anatomy course that covers dental anatomy as it pertains to the permanent dentition. Students will become familiar with basic tooth morphology, arrangement of teeth in the mouth, tooth names, structures, and specific distinguishing characteristics of each tooth. Effective methods of studying dental anatomy and its many facets are emphasized. The course is designed to more accurately predict and ensure success in the dental hygiene program by providing a basic course for applicants who would like to increase their likelihood of success in dental hygiene, for applicants to the dental hygiene program who have low scores on tests or a low GPA, and for students doing career exploration.
*Prerequisite or corequisite: EDU 9300. (3-0-0) 3

***DEN 3302 Oral Embryology and Histology:** Students will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Recognition of oral defects, including dental defects due to irregular development and their clinical significance, will be evaluated by the students. They will gain microscopic and histologic knowledge of dental and oral structures and will be encouraged to relate the knowledge gained from this subject to the clinical patient.
*Prerequisites: Den 3401, BIO 1504. (3-0-0) 3

***DEN 3401 Dental Anatomy:** Upon completion of this course, students will be able to recall specific anatomical structures of the permanent and deciduous dentition; identify extracted samples of each tooth; and demonstrate a familiarity with dental terminology, gross oral anatomy, and classification of occlusion.
*Prerequisite: Acceptance into the Dental Hygiene Program. (3-2-0) 4

***DEN 3411 Preclinical Dental Hygiene I:** Upon completion of this course, students will have developed a personal philosophy of patient-centered care; gained knowledge and experience in the assessment phase of dental hygiene care, including infection control, equipment care and maintenance, obtaining a medical history, taking vital signs, performing an oral inspection, and charting oral conditions and recording periodontal findings.
*Prerequisite: Acceptance into the Dental Hygiene Program. (2-4-0) 4

***DEN 3503 Dental Radiology:** Upon completion of this course, students will know the principles involved in the production of x-rays and utilize methods for protecting the

patient and operator from ionizing radiation; identify parts of the dental x-ray unit and discuss the function of these parts; prepare a diagnostic series of dental radiographs using a variety of intro-oral techniques and process films using a manual technique or an automatic processor; identify anatomic landmarks and mount and critique various film series; recognize errors in technique and utilize methods to correct these errors. Students will gain practical experience initially through the use of manikins and eventually expose radiographs on clinic patients.
*Prerequisite: DEN 3202. (3-4-0) 5

***DEN 3512 Preclinical Dental Hygiene II:** Through practice on manikins, each other, and selected patients, students will demonstrate the ability to plan, execute, and record a dental prophylaxis maintaining aseptic conditions, without traumatizing hard and soft tissues. A familiarity with the instruments and their use is required.
*Prerequisites: DEN 3411, DEN 3401. (2-6-0) 5

***DEN 3513 Dental Hygiene I:** Students will accomplish a complete dental prophylaxis on a number of selected patients. Treatment plans for special patients will be considered. Increasing skill in charting and periodontal evaluation will be developed. Major consideration will be given to the removal of supragingival deposits and the developing of skill in detection and removal of subgingival deposits.
*Prerequisite: DEN 3512. (2-0-9) 5

***DEN 4206 Chairside Assisting:** Students will experience chairside assisting skills expected of a trained auxiliary. Students will be competent in four-handed dentistry, placement of temporary restorations, application of periodontal packing material, taking of alginate impressions and pouring up study models. Students will also place pit and fissure sealants.
*Prerequisites: DEN 4505. (1-2-0) 3

***DEN 4207 Community Dental Health II:** Students will study resources available in the community to assist individuals and groups in meeting dental needs; identify a target group and spend ten weeks completing a needs assessment, developing a program plan, implementing the plan, and evaluating the results. Students will present the results along with statistics and a visual display as a final report to the class. They will also become familiar with the special techniques for meeting the needs of geriatric patients.
*Prerequisite: DEN 4406. (1-0-3) 2

***DEN 4226 Pharmacology:** Students will demonstrate a knowledge of pharmacological nomenclature, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs and treatment of adverse reactions. Students will recall types and classes of drugs and write a general outline for a prescription, indicating a knowledge of the laws dealing with drugs.
*Prerequisite: CHM 3502 or equivalent. (2-0-0) 2

***DEN 4305 Periodontology:** Students will discuss principles of periodontics; describe, compare, and contrast techniques involved in periodontal treatment and maintenance therapy; discuss each classification of periodontal disease according to definition, clinical characteristics, radiographic changes, and case management.
*Prerequisite: DEN 3302. (3-0-0) 3

***DEN 4306 Pathology:** Students will gain introductory knowledge of general and oral pathology. They will be able to recognize common abnormalities, describe etiology and appearance of suspicious lesions and conditions, and recognize and identify frequently-encountered diseases and pathologic conditions.
*Prerequisite: DEN 3302. (3-0-0) 3

DEN 4307 Dental Hygiene Practice: As a result of this course, students will become aware of current issues and trends in dental hygiene practice; explore roles, values, ethics and responsibilities as health care providers; and visit dental offices, observing various employment settings and sharing experiences and observations with classmates. (2-0-3) 3

***DEN 4406 Community Dental Health I:** Upon completion of this course, students will be able to demonstrate knowledge, skills, and behaviors which promote dental health and prevent dental disease through organized community programs; and develop an understanding of the health care system and the role of the dental health professional in this system. Following lecture and laboratory experiences, students will be able to demonstrate knowledge and skills in the assessment, planning, promotion, implementation, and evaluation of community programs.
*Prerequisite: DEN 3223. (3-2-0) 4

***DEN 4505 Dental Materials:** Upon completion of this course, students will be able to demonstrate knowledge of the theory of intra- and extra-oral materials in written and practical examinations; and demonstrate a competency level of skill in the laboratory and clinical application of routinely-used dental materials. Through the integration of lecture and laboratory experiences, students will be able to properly select and manipulate materials for any given procedure.
*Prerequisite: CHM 3502. (3-4-0) 5

***DEN 4616 Dental Hygiene III:** Sixth quarter Dental Hygiene students will gain proficiency in performing a complete oral prophylaxis on all patient classifications. Major emphasis is placed on increasing students' subgingival deposit removal skills. In addition, continued emphasis will be given to meeting the individual needs of the patient. Along with clinical application of basic chairside assisting skills, students will select and treat a periodontally-involved patient as part of a case study.
*Prerequisite: DEN 4715. (1-0-15) 6

***DEN 4617 Dental Hygiene IV:** Students will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the workplace. Students will provide care for an increased number of patients who require challenging treatment experiences without sacrificing the quality of care. Students will also present a prepared periodontal case history. Demonstration of exit-level competencies for all practice tasks is required.
*Prerequisites: DEN 4616. (1-0-15) 6

***DEN 4715 Dental Hygiene II:** Dental Hygiene students will gain proficiency in performing a complete oral prophylaxis on all classifications of patients, which will include plaque control instruction and detection, and removal of all deposits within the capabilities of the fifth quarter Dental Hygiene student. Major consideration will be given to the refining of calculus detection skills.

*Prerequisites: DEN 3513, DEN 3223. (2-0-15) 7

DFT – Drafting, Mechanical

DFT 3300 Advertising Drafting: Upon completion of this course, students should be able to use drafting equipment to lay out simple geometric construction; letter words and numbers with standard lettering; lay out a typical title page; read elementary orthographic drawings; produce simple ink drawings including pictorial drawings, and relate instrument drafting to commercial art work. (2-3) 3

***DFT 3314 Mechanical Computer Aided Drafting 2D, AutoCAD:** Upon completion of this course, students should be able to identify the components of a PC-based CAD system; use the AutoCAD menu system to draw and edit lines, circles, arcs, curves, and text; draw simple 2-dimensional objects; draw simple and complex objects using 3-view orthographic projection; draw cross-section views; dimension detail drawings; and create and use a library of standard parts.
*Prerequisite: DFT 3404, EDP 3310 or Departmental permission. (2-3) 3

***DFT 3317 Computer Aided Drafting (CAD) Detailing:** Upon completion of this course, students should be able to draw and dimension machine elements such as threads, fasteners, and springs; cams and cam followers; gears and gearing and other typical machine parts; obtain and use the essential generic nomenclature from tables and charts for standardized stock items such as gears, threads, and other standard items; and dimension parts properly for machining or other processing.
*Prerequisite: DFT 3314. (1-6) 3

***DFT 3318 CAD Assembly:** Upon completion of this course, students should be able to draw parts separately and in assemblies; be able to draw and understand the function of general assemblies and with detailed parts, assemblies, and sub-assemblies, working drawing assemblies, assembly sections, installation assemblies and check assemblies; and be able to produce parts lists with proper cross referencing for detail and assembly drawings.
*Prerequisite: DFT 3317 or Departmental permission. (1-6) 3

***DFT 3319 CAD Project:** Upon completion of this course, students should have completed a mechanical or manufacturing drafting project consisting of all the detail and part drawings, subassembly and assembly drawings, Bill of Materials and specifications that are necessary to convey the graphical and written information for the completion of a mechanical design or manufacturing processing documentation.
*Prerequisite: DFT 3318. (1-6) 3

***DFT 3320 Mechanical Computer Aided Drafting 3D, AutoCAD:** Upon completion of this course, students should be able to create 3-D views of an object; demonstrate understanding of the XYZ coordinate system; define and use a User Coordinate System (UCS) to create 3-D models; construct 3-D entities by extrusion; and apply 3-D Surface Modeling techniques.
*Prerequisite: DFT 3314. (1-6) 3

***DFT 3327 Mechanical Computer Aided Drafting 2D, CADAM:** Upon completion of this course, students should be able to identify the components of CADAM systems and define their uses; use the commands and controls of the system to draw points, lines, circles, curves, and text; draw simple two-dimensional objects; draw simple and complex objects in 3-view orthographic projection; draw cross-sectional views; dimension detail drawings; use edit commands to change geometry and text as single items or as groups; use the analyze commands to find mathematical values for geometry; create separate drawings details and use them in a drawing; and file and plot drawings.
*Prerequisite: DFT 3404 or Departmental permission. (1-6) 3

***DFT 3337 Mechanical Computer Aided Drafting (CAD) Interactive, CATIA:** Upon completion of this course, students should be able to use the commands and controls of a mainframe interactive CAD system to draw points, lines, curves, and planes in 3-dimension and project 2-dimensional views from 3D; apply auxiliary views, surfacing and volumes; dimension drawings; edit and change geometry and text as single entities or as a group and basic operational set-up of the equipment.
*Prerequisite: DFT 3404 or Departmental permission.(1-6) 3

***DFT 3338 Mechanical Computer Aided Drafting (CAD) Solids Geometry, CATIA:** Upon completion of this course, students should be able to use the commands and controls of a mainframe interactive CAD system to build and manipulate sets, layers, solids geometry, surfaces, details, shading, patterns, and libraries; and utilize analysis and graphic commands.
*Prerequisite: DFT 3337. (1-6) 3

DFT 3404 Mechanical Drafting I: Upon completion of this course, students should be able to use drafting equipment and instruments; letter words and numbers in Gothic style; lay out geometric constructions; execute orthographic drawings by use of instruments; dimension drawings and apply notes to drawings; reproduce, file, and store drawings; and execute simple "working" drawings. (2-6) 4

***DFT 3405 Mechanical Drafting II:** Upon completion of this course, students should be able to apply orthographic projection principles to more complex drafting problems, including those with various kinds of holes; draw and write specifications for threads; read and draw the conventions of line elimination and revolving out of position; read, draw, and dimension the various kinds of sectional views; read, draw, and dimension auxiliary views; draw on assembly drawing with parts list; and draw views where elliptical and other curved shapes are required.
*Prerequisite: DFT 3404. (2-6) 4

***DFT 3406 Descriptive Geometry with CAD:** Upon completion of this course, students should be able to use a 2-D CAD system to analyze and solve graphically space problems which involve, lines, and planes and 3-D shapes; use CAD systems to verify and annotate correct and precise solutions; relate descriptive geometry approaches to design and analysis of parts and fits; visualize application problems on the screen; and use CAD to create flat stock patterns to be folded or rolled into 3-D shapes.
*Prerequisite: DFT 3314. (2-6) 4

DFT 4300 Mechanical Blueprint Reading: Upon completion of this course, students should be able to visualize a

three-dimensional object; relate the shape and size correctly and accurately to a pictured object; read and understand drawing conventions, symbols, and notations; and interpret the proper operations and shop procedures needed to produce objects shown on simple prints. (3-0) 3

Diesel Vehicle Maintenance – See DSL

DRA – Drama

^*Meets humanities requirement.*

DRA 1301 Stagecraft: Upon completion of this course, students should have a working knowledge of theater buildings and their equipment, working drawings, and scene shop organization. They will have had practice in scenery construction and painting. Participation on technical crews of the College theater productions is required. (1-4) 3

DRA 1303 Acting: Upon completion of this course, students should have acquired practice in developing and controlling the voice, body, and emotions as instruments of expression. Each student will be encouraged to free and use imaginative resources and critical faculties through controlled practice. (1-4) 3

***DRA 1304 Advanced Acting:** This is a continuation of DRA 1303. Upon completion of this course, students should be able to demonstrate an understanding of more advanced acting theories with special attention given to verse drama, musical theater, and specialized stage movement and exercises.
*Prerequisite: DRA 1303 or consent of instructor. (1-4) 3

DRA 1310 Play Production—One Acts: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of one-act plays. The laboratory consists of the rehearsing and performing of one-act plays. (0-12) 3

DRA 1311 Play Production—Comedy/Drama: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of a full-length comedy or drama. The laboratory consists of rehearsing and performing a full-length production of a comedy or drama. (0-12) 3

DRA 1312 Play Production—Musical: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles governing the staging of musicals. The laboratory consists of rehearsing and performing a full-scale musical production. (0-12) 3

DRA 1320 Teleplay Production—Drama: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a dramatic television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute dramatic television program. (0-12) 3

DRA 1321 Teleplay Production—Situation Comedy: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a situation comedy television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute situation comedy television program. (0-12) 3

DRA 1322 Teleplay Production—Action/Adventure: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of an action/adventure television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute action/adventure television program. (0-12) 3

DRA 1323 Teleplay Production—Variety: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a variety television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute variety television program. (0-12) 3

^ **DRA 1500 Introduction to Drama:** Upon completion of this course, students should develop skills in analyzing the nature of the theater and drama; demonstrate mastery of the principles of play analysis; and demonstrate an understanding of the fundamentals of technical production. (5-0) 5

DRA 1501 Introduction to Broadcasting: Upon completion of this course, students should be able to analyze the elements of television and radio broadcasting by demonstrating a mastery of the history and principles of broadcast system; an understanding of the fundamentals of the technical production of broadcasting; and to formulate a critical response to the broadcast medium in writing and in conversation, demonstrating a knowledge of any manifestation of media as it affects both the individual and society. (5-0) 5

DRA 2204 Special Problems in Drama: This is an advanced problems course of guided studies involving laboratory and library work. (1-3) 2

DRA 2303 Acting for the Camera: Upon completion of this course, students should have acquired practice in acting for television commercials, as well as experience before print photographers, and have a working knowledge of video studio equipment. (1-4) 3

***DRA 2306 Advanced Acting for the Camera:** This is a continuation of DRA 2303. Upon completion of this course, students should be able to demonstrate an understanding of more advanced camera acting theories; perform in a daytime drama; deliver a newscast; prepare a role in a feature film; and portray a clear character type in a TV or print advertisement.
*Prerequisite: DRA 2303 or consent of the instructor. (1-4) 3

DRA 2311 Advanced Play Production-Comedy/Drama: Upon completion of this course, students should have mastered processes of script analysis, role playing of major proportions, and extended rehearsal and performance. Special attention is given to each participant mapping out and completing a strategy for successful final performance before an audience. (0-12) 3

DRA 2312 Advanced Play Production—Musical: Upon completion of this course, students should have demonstrated a thorough knowledge of script analysis, character building, and extended performance of a musical production. Special attention is given to each participant mapping out and completing a strategy for successful performance before an audience. (0-12) 3

^**DRA 2414 Film Criticism:** Through discussion and film screenings, students should be able to develop a critical appreciation for the elements of film, and should be able to formulate a critical response to the film medium in writing and in conversation, demonstrating an intelligent reaction to any film.
* Prerequisite: ENG 1504 or consent of instructor; Recommended corequisite: ENG 1505. (3-2) 4

DRG 9502: See Page 46.

DSL – Diesel Vehicle Maintenance

DSL 4400 Automotive Diesel Engines: Upon completion of this course, students should be able to describe the operation and construction of diesel engines used in current production automobiles and light trucks to 8000 GVW; perform service tasks required in disassembly, inspection, and reassembly of diesel engines and related components; diagnose and service diesel engine systems. (2-6) 4

***DSL 5204 Diesel Vehicle Maintenance Co-Op I:** Upon completion of this course, students should be able to apply skills acquired in diesel vehicle maintenance courses to actual work situations in the diesel vehicle maintenance industry; produce a work log sheet containing the types and number of job tasks completed in industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisites: Successful completion of first quarter classes - DSL 5311, DSL 5312, DSL 5300, DSL 5304; completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

***DSL 5205 Diesel Vehicle Maintenance Co-Op II:** This course is a continuation of DSL 5204 Diesel Vehicle Maintenance Co-Op I.
*Prerequisite: DSL 5204; completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

DSL 5206 Cab Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of a cab heating system including the function of components such as heater cores, heater controls, thermostats, water valves, and air flow ducting; describe the operation of a cab air conditioning system including the function of components such as compressors, pressure sensors and trianary switches; test for leaks, both coolant and A/C fluid, make repairs, evacuate and charge an air conditioning system (1-3) 2

***DSL 5207 Diesel Vehicle Maintenance Co-Op III:** This course is a continuation of DSL 5204 and DSL 5205, Diesel Vehicle Maintenance Co-Op II.
*Prerequisites: DSL 5204, DSL 5205; completion and acceptance by Program Director of Work Experience Registration Approval Form. (0-20) 2

DSL 5300 Diesel Fundamentals: Upon completion of this course, students should be able to identify a selection of fasteners by size, grade, and thread type, and make repairs to threaded holes; describe safety standards that pertain to vehicle maintenance shops; demonstrate the use of basic measuring instruments to determine component serviceability; describe direct and indirect diesel injection; define terms such as low idle, high idle, peak torque, governor cut-off, line retraction, port closure, and effective stroke as related to diesel injection and governing; identify the major sections of a roots-type blower and turbocharger; describe the basic piston and crankpin movements in a diesel engine 4-stroke cycle; and determine items such as compression ratio, cylinder displacement, bore and stroke size, and piston speed. (2-2) 3

DSL 5304 Hydraulics and Pneumatics: Upon completion of this course, students should be able to identify basic hydraulic components from a diagram drawn with standard hydraulic symbols; demonstrate a knowledge of vane, gear and piston pumps and motors; demonstrate a knowledge of pressure flow and directional control valves; compute the volume and speed of cylinders; test the performance of a gear fuel supply pump; define a selection of hydraulic terms; discuss tubing and fittings, hose and couplings; describe air compressors and air governors; and identify basic components of a compressed air system. (2-2) 3

DSL 5308 Air Brakes: Upon completion of this course, students should be able to describe the operation of air supply and service system, mechanical foundation brakes, spring brake/parking brake, and the ABS system (antilocking braking system); perform an air brake safety test on a vehicle; disassemble and inspect a wheel brake unit, reassemble, and adjust to specifications; clean, inspect, lubricate wheel bearing, replace seals and wear rings, and adjust wheel bearings to specifications. (2-2) 3

DSL 5309 Electronic Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of ECM-controlled diesel injection systems; describe the function of throttle position sensors, pressure sensors, temperature sensors, camshaft and crankshaft position sensors, speed sensors, electronic control modules, electronic controlled valves and stepper motors as related to electronic diesel injection; obtain fault codes and use troubleshooting fault trees to isolate defects in electronic controlled diesel injection system; use digital VOM meter to test system components, operate engine and verify correction of faults.(2-2) 3

DSL 5310 Diesel Tune-Up and Troubleshooting: Upon completion of this course, students should be able to describe the affects each engine system has on other engine systems; make test gauge connections to check 4-stroke cycle and 2-stroke cycle engine system; perform complete tune-up adjustments on operational 4-stroke cycle diesel engines, perform complete tune-up adjustments on operational 2-stroke cycle diesel engines; run a diesel engine under load and test system pressures; and use troubleshooting techniques to locate system problems on operational 2- and/or 4-stroke cycle diesels. (2-2) 3

DSL 5311 Fleet Maintenance Practices: Upon completion of this course, students should be able to complete a PM

check-off form; determine items in need of repair or replacement; identify defects in the steering, brakes, lights, etc., which would make the vehicle unsafe to operate. (2-2) 3

DSL 5312 Basic Electricity: Upon completion of this course, students should be able to check continuity in electrical circuits; check applied voltages and voltage drops, check current flow in electrical circuits, test circuit resistances; find shorts and grounds in electrical circuits, test circuit breakers, fuses and fusible links; diagnose and repair battery problems; diagnose and repair starter and starter circuit problems; and diagnose and repair charging system problems. (2-2) 3

DSL 5313 Electrical-Electronic Testing: Upon completion of this course, students should be able to use a digital VOM meter to test circuits with electronic components; describe the function of components used in an ECM-controlled circuit to feedback information to the electronic control module; and describe components actuated by the ECM; inspect and repair electronic control module wiring circuits; diagnose and repair lighting system components and circuits; and diagnose and repair gauges and warning devices (2-2) 3

DSL 5321 Transport Refrigeration: Upon completion of this course, students should be able to describe the operation of a basic mechanical refrigeration system as used in transport refrigeration; demonstrate a knowledge of basic principles, the basic refrigeration cycle, system components, and defrost system; perform preventive maintenance on the power unit and refrigeration unit; connect gauge manifold, test, and correct refrigerant and oil levels; use the temperature of system components as an aid to troubleshooting system problems; and test and isolate electrical problems using a VOM meter. (2-2) 3

DSL 5408 Heavy Duty Chassis and Suspension Systems: Upon completion of this course, students should be able to describe the operation of manual steering and power steering; inspect and adjust steering linkage, inspect and determine excess wear of suspension systems, remove and replace suspension components such as springs, hangers and bushings, torsion bars, torque arms, suspension air bags and level valves, check wheel alignment, determine camber, caster, toe and king-pin inclination, and determine needed repairs, check and adjust axle alignment and tracking, diagnose unusual tire wear, make necessary repairs to flat tires, inspect and service fifth wheel and slide, inspect and determine necessary repair for frame defects. (2-4) 4

DSL 5409 Heavy-Duty Drive Train: Upon completion of this course, students should be able to describe the operation of single- and double-disc heavy-duty clutches, diagnose and repair clutch-related problems, describe the operation of manual heavy-duty transmissions, diagnose and repair single- and dual-countershaft transmission problems, diagnose and repair air operated shift controls and cylinders, diagnose and repair drive shaft and universal joint problems, including measuring and adjustment of drive train angles, describe the operation of drive axles including two-speed axles and power dividers, diagnose and repair drive axle problems including disassembly, inspection of differential carriers, and reassembly to specification. (2-4) 4

DSL 5410 Diesel Engines I: Upon completion of this course, students should be able to disassemble and assemble to manufacturer's specifications a typical heavy-duty 4-stroke and/or 2-stroke diesel engine; relate the importance of good maintenance to performance of an engine's lubrication, cooling, fuel, intake and exhaust systems; make adjustments to compression-type engine brakes; demonstrate ability to use service manuals and parts books; crank and run engine. (2-4) 4

DSL 5411 Hydromechanical Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of scroll and sleeve metering injection pumps, distributor-type injection pumps, and Cummins P T fuel systems; assemble and run an inline and/or distributor-type and/or Cummins P T pump on test stand, check pump delivery, set governor cut-off, test pump phasing, check starting fuel and peak torque delivery, check low and high idle setting; inspect, test, adjust mechanical govemors, install, static and/or flow time injection pump. Describe the operation of mechanical unit injectors, clean, inspect, assemble and flow test unit injectors, install and set to specifications. (2-4) 4

DSL 5412 Diesel Engines II: Upon completion of this course, students should be able to overhaul a typical diesel engine; inspect and determine renewability of cylinder head and valve train components, rebuild cylinder head, inspect and determine reusability of cylinder block and components such as crankshaft, camshaft, timing gears, cylinders liners, pistons, connecting rods, flywheel and ring gear, inspect and determine reusability of support components such as the injection pump and injectors, water pump, oil cooler, air compressor, generator (alternator), turbocharger, aftercooler and starter motor, repair or replace wom components; assemble engine to manufacturer's specifications, crank and run engine. (2-4) 4

ECA – Early Childhood

ECA 3307 Child Care Credential I: After completing this course, students should be able to define the role of the child care professional; describe behaviors that show professional ethics; identify traits and characteristics of an effective child care provider; demonstrate knowledge of professional growth activities, such as conferences, journals, professional organizations; list the major areas of child growth and development; list three major principles of child growth and development; identify cognitive/language/social/emotional, physical/motor characteristics of children birth through 12; identify early warning signs of development delays and/or disabilities; describe reasons for acceptance of individual cultures, home situations, and community; list benefits of establishing positive relationships with families; and identify resources to support parenting skills. (3-0-0) 3

ECA 3308 Child Care Credential II: After completing this course, students should be able to identify elements in the physical environment that promote independence, security and problem prevention; list principles to follow in planning a daily schedule and developmentally-appropriate activities; identify adult-child interactions that promote social and emotional development; describe activities that promote problem solving and creative thinking; identify and describe examples of positive guidance; identify and demonstrate effective communication skills for positive guidance; identify and demonstrate effective methods of group guidance; describe basic steps for guiding children from misbehavior to more acceptable behavior; identify health and sanitation standards that pro-

mote a healthful environment for children; describe the "Basic Four Plus 1" USDA nutritional standards for meals/snacks; list foodservice objectives related to nutrition in the child care setting; and identify potential safety hazards in the indoor/outdoor environments of a child care setting. (3-0-0) 3

ECA 3309 Materials and Activities for Infants and Toddlers: Upon completion of this course, students should be able to describe a curriculum for infants and toddlers in the context of interaction routine care, and sensorimotor stimulation; describe the caregiver's role in assessment and planning for development in all aspects: physical, cognitive, linguistic, social, and emotional; identify developmentally appropriate and safe indoor and outdoor environments for infants and toddlers; evaluate examples of commercially-and teacher-made materials for safety and developmental appropriateness for various age groups; identify and discuss appropriate caregiver strategies, materials, and activities to stimulate cognitive physical development, cognitive development, language development, and those that match infant and toddler social abilities. (3-0-0) 3

ECA 3310 The Exceptional Child: Upon completion of this course, students should be able to identify and discuss characteristics of developmental exceptionalities; identify community and state resources available for families with exceptional children; identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; identify ways exceptional children use materials, supplies, and equipment differently than other children; identify techniques of working with parents to help reduce their apprehensions about their child's condition; and define the procedures for referring a child to special services. (3-0-0) 3

ECA 3311 Materials and Activities for the Young Child: Upon completion of this course, students should be able to describe the role of play and play materials in the development of the young child; describe the teacher's role in fostering and guiding children's creative ability; identify raw art materials, their potential and use with the young child; identify the principles and practices of music, movement, sound, and rhythm for the young child; identify the process of language development through the use of children's books, story-telling and dramatization; identify appropriate science and math experiences and materials; identify and discuss techniques for implementing a stimulating outdoor learning environment; and describe and discuss the importance of manipulative toys and blocks in the development of the young child. (3-0-0) 3

***ECA 3326 Advanced Materials and Activities for the Young Child:** Upon completion of this course, students should be able to expand on the basic file box of activities begun in HSA 3311,which will include at least 20 art activities, 20 songs and 20 other musical activities, titles and summaries of 20 appropriate books for young children, 20 finger play, and 20 other language related activities, 20 appropriate science activities, 20 appropriate math activities, 10 outdoor experiences that will expand the young child's learning, 10 suggestions for stimulating play in the block corner, 10 suggestions for teacher-made manipulative materials; demonstrate the understanding of activities appropriate for different developmental levels (through the activities selected for the file box); plan, organize, and carry out a teaching unit which will include all of the stated areas. demonstrate the knowledge of the teacher's role in fostering and guiding children's creative ability, and demonstrate the capacity to foster and guide young children's creative ability.
*Prerequisite: ECA 3311 or permission of the Program Director. (3-0-0) 3

ECA 3360 Understanding Adolescence: Upon completion of this course, students should be able to differentiate major developmental characteristics associated with pre-adolescence, early adolescence, and late adolescence changes; identify and describe specific characteristics of the adolescent in the areas of physical, cognitive, social, emotional, and moral development, identify and discuss the inter-relationship between the social, emotional, cognitive, and physical development of the adolescent; and identify and describe social and familial factors which prevent and encourage maximum growth and development of the adolescent. (3-0-0) 3

ECA 3400 Guidance for Young Children: Upon completion of this course, students should be able to define and differentiate indirect and direct guidance; describe factors in teacher arrangement of classroom time and space which indirectly guide children's behavior; identify and discuss a range of appropriate direct guidance techniques which facilitate the development of self-concept; and discuss teacher guidance during routine times of the day, such as mealtime, bathroom, and nap times. (3-0-3) 4

ECA 3403 Introduction to Day Care Administration: Upon completion of this course, students should be able to describe the steps involved in setting up child care programs according to state and federal guidelines; describe the management practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, and operational policies; and describe personnel practices required in quality child care programs, including job descriptions and interviewing. (3-0-3) 4

***ECA 3510 School Age Child Care:** Upon completion of this course, students should be able to describe the growth and development of the school-aged child, with emphasis on the middle and late childhood years, identify the physical, social, emotional, and intellectual needs of the school-aged child; describe the principles underlying an after-school care program; plan particular segments of a program for the school-aged child and implement particular segments of a program for the school-aged child.
*Prerequisite: Program Director consent. (3-0-6) 5

***ECA 3511 Infant and Toddler Development:** Upon completion of this course, students should be able to describe the normal growth and development of the infant; identify the needs of the developing infant; describe the normal growth and development of the toddler; identify the needs of the developing toddler; list and discuss the principles underlying a program for infants and toddlers; plan particular segments of a program for infants and toddlers; and implement particular segments of a program for infants and toddlers.
*Prerequisite: Program Director consent. (3-0-6) 5

ECA 4310 Adult/Child Relations: Upon completion of this course, students should be able to identify principles underlying the development of a positive self-concept in young children; identify and demonstrate effective listening skills: active listening essential to positive one-to-one interaction

and positive small group interaction with young children; and identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. (3-0-0) 3

***ECA 4500 Working With Parents:** Upon completion of this course, students should be able to list and discuss three specific benefits for parent, teacher, and child in establishing and maintaining a positive relationship with parents; identify and demonstrate at least eight effective strategies for teachers to communicate with parents; identify and discuss at least five methods for involving parents in programs for children; demonstrate through role play and evaluations, knowledge of the purpose of parent conferences and at least six effective techniques used in conducting conferences; demonstrate skills in preparing materials for parents, such as newsletters and bulletin boards; identify and discuss particular needs of families experiencing stress, parents of infants, parents of exceptional children, parents involved in abuse and neglect, or experiencing divorce and separation, and identify and describe at least five appropriate community agencies to which teachers can refer parents who need particular assistance.
*Prerequisite: Program Director or instructor approval.
(3-0-6) 5

***ECA 4508 Senior Internship:** Upon completion of this course, students should be able to discuss thoroughly the work experience in the student's specialty area; discuss the procedures, treatment methods, and service techniques of tie agency where the student interns; complete an in-depth research project as a major contribution to the student's Human Service program selected in consultation with the instructor; maintain twelve hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship.
*Prerequisite; By permission of Program Director only.
(1-0-12) 5

***ECA 4509 The Preschool Teacher In the Classroom:** Upon completion of this course, students should be able to demonstrate an understanding of the nature of teaching as facilitating learning; identify the experiences, media, and facilities which promote optimal development in the preschool classroom; describe and demonstrate the specific appropriate behaviors of a teacher in the role of facilitating in the various learning centers; and plan and implement appropriate activities for young children in the curriculum areas of art, dramatic play, science, outdoor play, and group time.
*Prerequisite: By permission of Program Director. (3-0-6) 5

***ECA 4614 Advanced Classroom Teaching:** Upon completion of this course, students should be able to describe and implement effective techniques in observing and assessing the developmental needs of young children: anecdotal records and specific assessment tools; describe and implement effective techniques in evaluating preschool environments in relation to the developmental needs of young children: classroom assessment tools and teacher assessment tools; plan segments of a daily program for a group of young children; implement segments of a planned daily program for a group of young children; demonstrate skills in functioning effectively as a member of a teaching team, including appropriate communication, support, and problem-solving techniques; identify specific terms related to membership in the early childhood profession: NAEYC, accreditation guidelines for developmentally appropriate practices, CDA, advocacy; and fulfill one responsibility related to developing professionally (list of choices will be given).
*Prerequisite ECA 3400, ECA 4509. (2-0-12) 6

***ECA 5501 Child Development:** Upon completion of this course, students should be able to identify the stages of the young child's development; identify and discuss the interrelationship between the social, cognitive, emotional, and physical development of the child; identify and describe factors which prevent and encourage maximum growth and development of the child; identify and describe the characteristics of the child at different stages in the areas of social, cognitive, emotional, language, moral, and physical development; and discuss the importance of play to the child's total development.
*Prerequisite: Program Director or instructor approval.
(3-0-6) 5

ECA 5510 CDA Practical Lab I - Setting Up and Maintaining a Healthy Learning Environment: Upon completion of this course, students should be able to organize space into functional areas recognizable by the children: block building, library, and dramatic play; maintain a planned arrangement for furniture, equipment, and materials for large and small motor skills learning, and for play materials that are understandable to the children; organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; arrange the setting to allow for active movement as well as quiet engagement; take preventive measures against hazards to physical safety; keep light, air, and heat condition at best possible levels; establish a planned sequence of active and quiet periods, and of balanced indoor and outdoor activities; provide for flexibility of the planned arrangement of space and scheduling to adjust to special circumstances and needs of a particular group or children or make use of special education opportunities; and recognize unusual behavior or symptoms which may indicate a need for health care. (3-0-20) 5

ECA 5511 CDA Practical Lab-Advancing Physical and Intellectual Competence: Upon completion of this course, students should be able to use the kinds of materials, activities, and experiences that encourage exploring, experimenting, questioning that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; recognize and provide for the young child's basic impulses to explore the physical environment and master the problems that require skillful body coordination; increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; use a variety of techniques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; assist the child to work gradually toward recognition of the symbols for designating words and numbers; promote cognitive power by stimulating children to organize their experience (as it occurs incidentally or pre-planned for them) in terms of relationships and conceptual dimensions, classes of objects, similarities and differences, comparative size, amount, degree, orientation in time and space, growth and decay, origins, family kinship, and causality; provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of structured, organized setting and program; balance unstructured materials such as paint, clay and blocks with structured materials that

require specific procedures and skills, and balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; stimulate focused activities: observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and reviewing the outcomes of experience; support expressive activities by providing a variety of creative art media and allowing children freedom to symbolize in their own terms without imposition of standards of realistic representation; and utilize support and develop the play impulse in its varied symbolic and dramatic forms, as an essential component of the program, giving time, space, necessary materials, and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. (3-0-20) 5

ECA 5512 CDA Practical Lab III - Building Positive Self Concept and Individual Strength: Upon completion of this course, students should be able to provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of the family and ethnic group, and as a competent individual with a place in the child community; give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; demonstrate acceptance to the child by including the home language functionally in the group setting and helping to use it as a bridge to another language for the sake of extended communication; recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation, and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-teacher relationships, to give support and to enlarge the capacity to face these problems realistically; assess special needs of individual children and call in specialized help where necessary; keep a balance for the individual child between tasks and experiences from which feelings of mastery and success can be enjoyed, as well as other tasks and experiences which are a suitable and stimulating challenge, yet not likely to lead to discouraging failure; and assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration individual strengths and weaknesses and considering opportunities the child has or has not had for learning and development. (3-0-20) 5

ECA 5513 CDA Practical Lab IV - Organizing and Sustaining the Positive Functioning of Children and Adults in a Group Learning Environment: Upon completion of this course, students should be able to plan the program of activities of the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for the sake of social development; create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative - love, sympathy, enthusiasm, pain, frustration, loneliness, or anger; establish a reasonable system of limits, rules and regulations to be understood, honored, and protected by both children and adults, appropriate to the stage of development; foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; and develop projects that utilize cultural variation in the family population as resource for the educational program. (3-0-20) 5

ECO – Economics

Note: As noted in the Admissions policy, placement tests may be required for the degree, diploma or certificate sought. Before attempting a course in Economics, remedial courses must be completed based on test results.

ECO 2304 Economics I: Upon completion of this course, students should be able to apply economic concepts to basic and current national problems; trace the development of economic philosophies as they relate to traditional, command, and market economics; and evaluate the role of federal programs in the areas of GNP, monetary and fiscal policy, and business cycles. (3-0) 3

***ECO 2305 Economics II:** Upon completion of this course, students should be able to discuss consumer and business choice by analyzing market demand and supply elasticity; explain the various market structures of pure competition, monopolistic competition, oligopoly and monopoly; and discuss "real world" issues concerning industrial organizations, unions, government antitrust and regulation policy.
*Prerequisite: ECO 2304. (3-0) 3

***ECO 2306 Economics III:** This course is designed for Economics students to expand their knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to various contemporary problems; e.g., housing, energy, the environment, education, transportation, and international trade. Upon completion of this course, students should be able to discuss the economic approach to issues mentioned above; discuss international trade, protectionism, foreign exchange and payments; analyze the importance of economic growth and productivity; and explain the problems of the less-developed countries. A research paper is required.
*Prerequisite: ECO 2304 or ECO 2305. (3-0) 3

ECO 3300 Introduction to Economics: This course is designed for students who are interested in a broad overview of Economics. Upon completion of this course, students should be able to discuss the various types of economic systems; analyze some of the goals and problems; e.g., unemployment, inflation, and production of our economy; discuss consumer choice by analyzing the concepts of demand, supply and elasticity; describe the role of the government in the macro-economy; describe monetary and fiscal policy; explain business competition, labor markets and unions; and discuss international trade. (3-0) 3

EDN – Interior Design

EDN 3304 Macintosh Applications In Interior Design: Upon completion of this course, students should be able to use MAC-WRITE, MAC-PAINT, MAC-DRAW, MAC-DRAFT, and QUICKEN software for application to their work in Studio I, II, III, Presentations and Professional Practice and Procedures, Contract Interiors and Thesis. (2-2) 3

***EDN 4202 Thesis:** Upon completion of this course, students will have planned and developed a professional portfo-

lio based on work done during the preceding five quarters. They will be involved in reworking and matting and, where necessary, will develop new projects which will help them focus their portfolio on specific job interests.
*Prerequisite: EDN 4415. (0-4) 2

EDN 4205 Orientation: Upon completion of this course, students should be familiar with the Interior Design Program offered at CPCC and the use of CPCC's facilities, such as the Library, Drop-In Center, Central Campus security, and counseling services; and should be able to make better career choices and plan their program accordingly. (2-0) 2

***EDN 4206 Cooperative Work Experience:** Upon completion of the Cooperative Work Experience, students should be able to perform the tasks required by that work situation. Students will be asked to keep a daily record of their experience and provide the instructor involved with a self examination of how well they did; employers will evaluate also their experience with the cooperative work experience program.
*Prerequisite: EDN 4414 and permission from the Program Director and the Co-Op staf.f (0-20) 2

EDN 4300 Survey of Interior Design: Upon completion of this course, students should have acquired a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

***EDN 4307 Survey Of Materials:** Upon completion of this course, students should be able to select proper material, currently available, for a specific application using the following criteria: overall quality, price, durability, color, and material from which the product is constructed. Individual topics discussed are rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass, and building materials.
*Prerequisite: EDN 4414. (1-4) 3

***EDN 4310 Design Sketching I:** Upon completion of this course, students should be able to use drawing skills for effective communication; produce presentation sketches, point of purchase sketches, and idea development sketches as associated with the design process; and use a variety of color and black and white art media
*Prerequisite: ART 1405. (0-6) 3

***EDN 4311 Design Sketching II:** This course is a continuation of Design Sketching I, with additional skills required to make professional sketches for presentation of the designer's ideas. Upon completion of this course, students should be able to produce perspective sketches in black and white, and color; produce traditional floor plan sketches which include drop wall elevations; and use computer output as a basis for producing some of these design sketches.
*Prerequisite: EDN 4310. (0-6) 3

EDN 4316 Period Furniture And Furnishings I: Upon completion of this course, students should be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design, covering the period from Egyptian through Louis XIV. (3-0) 3

***EDN 4317 Period Furniture And Furnishings II:** Upon completion of this course, students should be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design, covering the period from Louis XIV through contemporary.
*Prerequisite: EDN 4316. (3-0) 3

EDN 4320 Introduction To Textiles: Upon completion of this course, students should be able to identify major categories of fibers and weaves, describe contemporary machine weaving methods and fabric finishing processes, and describe and identify contemporary fabric printing methods. (3-0) 3

***EDN 4400 Professional Practices And Procedures:** Upon completion of this course, students should be able to write and design an initial contract form and letter of agreement; prepare a purchase order; figure wholesale discounts; and do simple job estimating.
*Prerequisite: EDN 4415. (2-4) 4

***EDN 4404 Interior Presentation:** Upon completion of this course, students should have developed skill in applying elements that comprise the interior environment: fabric, furniture, rock, masonry, and foliage; make presentations of designs in simulated designer-client relationships; construct and present simple interior collages and room layouts in ink and color; and develop additional skills in applying the Macintosh computer to design presentations, including space planning, elevations, and presentation sketching.
*Prerequisites: ARC 3434, ART 1426, EDN 4311. (2-4) 4

***EDN 4406 Contract Interiors:** Upon completion of this course, students should be able to understand current techniques in space planning and designing interiors for commercial and institutional buildings; recognize and anticipate changing needs; analyze and make recommendations concerning space planning and interiors design solutions befitting contemporary contract interiors; and use computer output, drafting, drawing, and specifications output for final work.
*Prerequisites: EDN 4415, ARC 3304. (2-4) 4

***EDN 4414 Applied Problems Studio I:** Upon completion of this course, students should be able to recognize fundamentals of interior design, space planning, convenience, function, and visual effects; complete planned projects to achieve workable and practical solutions to meet current needs of a contemporary residential interior; prepare graphic solutions in two- and three-dimensional form, wherever possible; and use computer output, drafting, drawing, and specifications output for final work.
*Prerequisites: ARC 3303, ARC 3334, ART 1426, EDN 4311. (2-4) 4

***EDN 4415 Applied Problems Studio II:** Upon completion of this course, students should be able to apply knowledge and skills from EDN 4414 to advanced solutions to special space and interior projects, preparing designs, presentations and complete specifications; and use computer output, drafting, drawing, and specifications output for final work.
*Prerequisites: EDN 4414, ARC 3304. (2-4) 4

***EDN 4416 Applied Problems Studio III:** Upon completion of this course, students should be able to investigate, plan, and execute interior designs for a cross-section of cur-

rent interiors; solve complex interior design problems including accurate specifications and construction details; and use computer output, drafting, drawing, and specifications output for final work.
*Prerequisite: ED 4415. (2-4) 4

EDP – Computer Information Systems

EDP 1404 Computer Concepts and FORTRAN Programming I: Upon completion of this course, students should be able to define selected terms pertaining to computer systems and programming; write programs in the FORTRAN language that read and write numeric/alpha-numeric, perform arithmetic calculations, use control logic, generate reports with headings and totals; perform operations with one-dimensional arrays; and prepare data for testing a FORTRAN program. (3-2) 4

***EDP 1405 FORTRAN Programming II:** A continuation of EDP 1404. Upon completion of this course, students should be able to write FORTRAN programs for problem solutions requiring two-dimensional arrays; functions and subroutines; input/output for tape and disk files; and logical operations and output.
*Prerequisites: EDP 1404, and MAT 1504, MAT 1524 or MAT 3504, or Departmental consent. (3-2) 4

EDP 1407 Computer Concepts and PASCAL Programming I: An introductory programming course that emphasizes a disciplined approach to programming in PASCAL. Upon completion of this course, students should be able to solve problems by developing algorithms; code PASCAL programs involving input, output, simple and compound decision, real and integer arithmetic, character data, repeated and nested loops; and execute and debug PASCAL programs. (3-2) 4

***EDP 1408 PASCAL Programming II:** Upon completion of this course, students should be able to understand and use one-dimensional arrays and associated operations; use packed arrays for character strings; declare and manipulate records; search and sort arrays; understand sets and set operations; and use PASCAL functions.
*Prerequisite: EDP 1407 or Departmental consent. (3-2) 4

EDP 1500 Computer Literacy: This course combines lecture, hands-on experience, and videotape material to present computer concepts for computer literacy. Upon completion of this course, students should be able to identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; list and define the functional units of a computer; identify the basic processes in programming; list the job characteristics of computer personnel; describe devices and basic procedures in file handling for batch processing systems; identify different programming languages and their usual applications; relate problem definition and project analysis, system design, system development and implementation from the systems analysis point of view; identify the characteristics of on-line systems, such as I/O function, data transmission, file access and response time; identify the concepts of computers as related to multi-programming and multi-processing; identify various computer usages; state some of the impacts of computer technology on individuals and the community; define selected terms relating to hardware and software for mainframe computers and microcomputers; operate a CRT for menu-driven applications; and operate a microcomputer with selected software packages. (5-0) 5

EDP 2306 Computer Programming I (Business): Upon completion of this course, students should be able to develop programming logic and write COBOL programs to solve sample business problems; incorporate programming techniques for input/output, calculations, decision making, and report formatting; and verify the accuracy of program output. (2-2) 3

***EDP 2307 Computer Programming II (Business):** A continuation of EDP 2306. Upon completion of this course, students should be able to develop program logic and write COBOL programs for solving sample business programs; and incorporate programming techniques and procedures for file processing.
*Prerequisite: EDP 2306. (2-2) 3

***EDP 2525 Introduction to Business Computing:** Through class lecture and hands-on activities in the microcomputer lab, students should be able to understand the basic components of a computer system with an emphasis on PC hardware and software; use PC-DOS to format a disk, manipulate files, and execute programs; and solve typical business problems through the BASIC programming language and LOTUS 1-2-3, or comparable spreadsheet software.
*Prerequisite: MAT 1504. (4-2) 5

***EDP 3215 Microcomputer Software—LOTUS 1-2-3:** Upon completion of this course, students should be able to identify the capabilities and applications for use of the LOTUS 1-2-3 software; use the commands and operational procedures to perform functions available in LOTUS 1-2-3; and apply the LOTUS 1-2-3 software to solve lab assignments representative of problems solvable using LOTUS 1-2-3 hands-on experience.
*Prerequisite EDP 3310 or equivalent or Departmental consent. (1-2) 2

***EDP 3316 Advanced LOTUS:** Upon completion of this course, students should be able to use LOTUS 1-2-3 to perform tasks required by a complex spreadsheet, including a wide range of commands, various functions, extensive printing and graphic options, and the development and use of macros for routine functions.
*Prerequisite: EDP 3324 or EDP 3215 or Departmental consent. (2-2) 3

***EDP 3217 Microcomputer Software—Data Base:** Upon completion of this course, students should be able to define selected terms and concepts used in data base design and application; load a data base software package on a microcomputer system; create and use existing data bases; add, delete, and modify data on the data base; organize and arrange data on the data base according to specific processing requirements; and generate reports from the data base. To accomplish the objectives of this course, a typical data base software such as dBASE III+ will be used.
*Prerequisite: EDP 3310 or equivalent or Departmental consent. (1-2) 2

***EDP 3318 Advanced dBASE:** Upon completion of this course, students should be able to use a data base such as

dBASEIII+ to perform the tasks required by a complex data base system including programming with decision making, file management, and redefining screen displays.
*Prerequisite: EDP 3324 or EDP 3217 or Departmental consent. (2-2) 3

EDP 3310 Microcomputer Operations: This course concentrates on the knowledge and skills needed to operate a microcomputer, not programming or maintenance. Upon completion of this course, students should be able to operate keyboard (no speed training), floppy disk, and line printer; use operational commands; and use sample software packages at an elementary level for wordprocessing, spread sheets, and file management. Microcomputers will be used for practice exercise. (2-2) 3

***EDP 3324 Advanced Microcomputer Operations:** Upon completion of this course, students should be able to operate a microcomputer for advanced spreadsheet application including graphics; advanced word processing techniques including desk top publishing concepts; advanced data base processing; a LAN environment; office automation of electronic mail and appointment scheduling; PC/host communication and application; and file management and backup procedures.
*Prerequisite: EDP 3310. (1-4) 3

***EDP 3335 Microcomputer Programming MS/DOS:** Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; use DOS commands; write procedures in MS-DOS that sort, print, copy, use control logic and edit; prepare sample files to test a MS-DOS procedure, create executable batch files; and write procedures in an interactive environment.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or Departmental consent. (2-2) 3

***EDP 3336 Advanced MS-DOS:** Upon completion of this course, students should be able to utilize DOS to maximize their efficiency, productivity, and creativity on the PC. They will utilize the IBM-extended character set and the ANSI.SYS device driver to control the display and keyboard; use printer commands; utilize DOS's Debug program to create, examine, or change a file; use advanced batch file techniques to set up a customized menu system for accessing application programs; control the PC's environment and configuration; set up and use a RAM disk; manage memory; create DOSKEY macros; and use DOS with Microsoft Windows.
*Prerequisite: EDP 3335 or Departmental consent. (2-2) 3

***EDP 3337 OS/2 Operating System:** Upon completion of this course, students should have a working knowledge of the OS/2 operating system, including setting up a file system, loading and executing user programs in real and protected modes, and providing a communication link between the computer and its accessories.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or Departmental consent. (2-2) 3

***EDP 3339 AIX Operating System:** Upon completion of this course, students should be able to log-in to the operating system and log-out of the operating system, set up a file system, load and execute user programs, provide a communication link between the computer and its accessories, and perform multi-user time sharing and multi-tasking.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or Departmental consent. (2-2) 3

***EDP 3350 Introduction to Artificial Intelligence:** Upon completion of this course, through class lecture and hands-on activities in the microcomputer lab, students should be able to understand the basic concepts and procedures in the development of an Artificial Intelligence system, with a concentration on Expert Systems; understand the logic emphasis and flow for an Expert System; develop a problem-solving approach used in an Expert System; and develop a working model for a select Expert System Application using a selected software package.
*Prerequisite: EDP 3310, EDP 3335. (2-2) 4

EDP 3405 Microcomputer Programming—BASIC: Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; write programs in the BASIC language that read/write/calculate, use control logic, generate reports with headings and summary totals, perform operations with arrays; prepare sample data to test a BASIC program, define and explain the purpose of a menu; and write programs in an interactive environment under control of an editor. (3-2) 4

***EDP 3406 Microcomputer Programming—Advanced BASIC:** Upon completion of this course, students should be able to write programs to create/access/update data files on disk; use one-and two-dimensional array processing; use selected functions available in BASIC and write user-defined functions and subroutines; use string functions; and write programs for reports using designated print formats with headers, edited output and summary totals for screen and printer output.
*Prerequisite: EDP 3405. (3-2) 4

***EDP 3407 Programming Business Applications for Microcomputers:** Upon completion of this course, students should be able to prepare input, output, and file formats; design and write programs in BASIC for selected accounting/business applications; code and/or explain techniques or routines used in computerizing a business application, such as data editing, sorting, merging, multileveled control breaks, calculation of days between dates, and file processing; and prepare and interpret documentation for selected accounting/business applications.
*Prerequisites: EDP 3406. (3-2) 4

***EDP 3410 C Language:** Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; write programs in C language that read/write/calculate, use structured logic, use library functions for specific tasks, generate reports, and perform operations with arrays; create, edit, store, link and execute programs and program modules in C language; write user-defined functions; prepare sample data to test a C program; and prepare programs for execution using a C compiler.
*Prerequisite: EDP 1407 or equivalent or Departmental consent. (3-2) 4

***EDP 3411 Advanced C Language Programming:** Through class lecture and hands-on activities in the microcomputer lab, students will learn to use pointers on a more advanced level, manipulate data on a bit level, use preprocessor directives more extensively, utilize enumerated data types, and implement advanced I/O operations including text and binary data files.
*Prerequisite: EDP 3410. (3-2) 4

***EDP 3440 Assembly Language:** Upon completion of this course, students should be able to perform arithmetic operations in the hexadecimal and binary numbering systems; code selected assembly language statements; interrupt machine language instructions and read hexadecimal dumps; and write assembly language programs using techniques ranging from reading of records through address modification, loops, editing, and sorting of 1-level tables, and use macro instructions and subprograms.
*Prerequisite: EDP 3515 or Departmental consent. (3-2) 4

EDP 3514 Programming Logic and COBOL I: Upon completion of this course, students should be able to analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level with the use of hierarchy charts and I/O specifications; write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; prepare test data and verify results of executing a COBOL program; and correct syntax and logical errors in a COBOL program. (3-4) 5

***EDP 3515 Programming Logic and COBOL II:** Upon completion of this course, students should be able to outline the logic through use of hierarchy charts, I/O specifications, and flow charts to process multiple level control breaks, group indicated and group printed reports, advanced arithmetic calculations, advanced decision-making techniques, disk/tape I/O, create/update sequential files on tape/disk, interactive processing, variable length records, and subprograms; write structured COBOL programs that will handle these same features; code, test, and debug sample problems with these features; and correct syntax and logic errors with the help of standard manuals.
*Prerequisite: EDP 3514. (3-4) 5

***EDP 3516 Programming Logic and COBOL III:** Upon completion of this course, students should be able to outline the logic through use of hierarchy charts, I/O specifications, and flow charts to handle single- and multi-dimensional tables, sorting of data, merging files, files containing multiple record formats, non-sequential files (create/update), reports using the REPORT WRITER feature, maintenance and modification of existing programs; write structured COBOL programs that will handle these same problems; and correct syntax and logic errors with the help of standard manuals.
*Prerequisite: EDP 3515. (3-4) 5

***EDP 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate results of applied experience to complement class and lab instruction in Business Computer Programming
*Permission of Department and Co-Op Staff. (0-20) 2

***EDP 4285 Cooperative Work Experience II:** A continuation of EDP 4284 which further refines the student's skills learned and practiced in Cooperative Work Experience I.
*Prerequisite: EDP 4284. (0-20) 2

***EDP 4286 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate results of applied experience to complement class and lab instruction in Microcomputer Systems Technology.
*Permission of Department and Co-Op Staff. (0-20) 2

***EDP 4287 Cooperative Work Experience II:** A continuation of EDP 4286 which further refines the student's skills learned and practiced in Cooperative Work Experience I.
*Prerequisite: EDP 4286. (0-20) 2

***EDP 4314 Systems and Procedures:** Upon completion of this course, students should be able to summarize the state of the art in information systems design; prepare a business form; prepare and explain a project plan and feasibility report; prepare a data flow diagram for a system; prepare a record layout for an input and output file; and relate the system process to a typical application using a case problem.
*Prerequisite: ACC 1604 or BUS 1400; EDP 1500; or Departmental consent. (3-0) 3

***EDP 4315 Applied Business Systems:** Upon completion of this course, students should be able to describe the components of a computer-based information system including EDP, MIS, DSS, EIS, ES, and AI; describe the most common subsystems associated with MIS including marketing, manufacturing, finance, and human resource management; conduct a systems analysis for solution of a typical business problem including considerations for hardware, software, personnel, out-sourcing/service bureaus, security, current system impact, and documentation; relate a CBIS to the data communications environment including basic terminology, network topologies, and security; and describe appropriate test considerations for data validation, program verification, and application auditability within a computer application.
*Prerequisite: EDP 4314. (3-0) 3

***EDP 4317 Introduction to Data Base:** Upon completion of this course, the student should be able to describe primitive to complex data structures in terms of storage and addressing; describe in general the three models of data bases; describe the specific structure and terminology of the relational data base model; diagram data relations using entity diagrams; program a relational data base on two different computer platforms based on an instructor-supplied business problem; utilize Structured Query Language (SQL) to access the data bases programmed; describe appropriate security and audit considerations for a data base; and discuss data base information distribution in various communication networks.
*Prerequisite: A course or experience with a programming language using file processing techniques (such as COBOL). (2-2) 3

***EDP 4330 User Support and Software Evaluation:** Upon completion of this course, students should be able to prepare proposals and make presentations evaluating hardware and software requirements to meet particular needs; detail procedures for such things as file restoration and computer virus prevention/detection; install computer software; perform data transfer between software packages; establish guidelines and

procedures for data security and physical security; prepare a training module directed toward a new user of a software system; and discuss requirements and goals of an information support center.
*Prerequisite: EDP 3324, EDP 3335, EDP 3405, EDP 4314, ENG 3405, SPH 1300, and ELN 4456, or Departmental consent. (1-4) 3

***EDP 4425 Computer Systems I:** This course uses one of the systems available for CPCC students—MVS/JES, an OS-type system. Upon completion of this course, students should be able to use utility manuals to code the JCL and control statements for certain utilities; code DD statements for sequential files; code JCL for compilation and execution of COBOL and WATBOL programs; create PDS; store and execute load modules; list physical and storage characteristics of disk and tape; calculate storage requirements for a file on disk or tape; trace the job flow from input to output identifying software programs involved for a multiprogramming computer system for compilation and execution of programs; diagram the program and data flow in a multiprogramming computer including channels and interrupts; define an operating system and discuss IPL, SYSGEN, and other selected terms; code parameters of a Job and Execute card; and use catalogued files.
*Prerequisite: EDP 3514 or Departmental consent. (3-2) 4

***EDP 4435 Computer Systems II:** This course uses two of the operating systems available to CPCC students—MVS/JES, an OS-type operating system, and DOS/VSE, a DOS-type operating system. Upon completion of this course, students should be able to store, modify, and use source modules on PDS in COBOL and WATBOL; code DD statements for index sequential VSAM, random files and define processing procedures and modes; create and store procedures in a procedure library; establish and use generation group files; use utility manuals for execution of selected utilities; state purpose of and list some typical access method programs; use message code listings to determine errors occurring in running sample labs; and code the control language for a DOS operating system.
*Prerequisite: EDP 4425 or Departmental consent. (3-2) 4

EDP 4444 RPG Programming: Upon completion of this course, students should be able to code, test, and debug RPG/400 programs using simple input/output, calculations, structured operation codes including IF, IF/ELSE, DO, EXCPT, and internal subroutines, single and multiple control levels; utilize the RPG logic cycle as well as full procedural file processing; use internal and external file definitions; and develop program logic and design reports. (3-2) 4

***EDP 4445 Advanced RPG Programming:** Upon completion of this course, students should be able to incorporate array and table processing in RPG/400 programs; use SAA/CUA standards to design screens; define and test display record formats using DDS and SDA; code, test, and debug interactive programs for inquiry, data entry, and file maintenance; use full procedural operation codes to update data base files; and define and process subfiles for display, data entry, and data base updates.
*Prerequisite; EDP 4444. (3-2) 4

***EDP 4546 The Programming Business Applications in RPG:** Upon completion of this course, students should be able to identify the steps involved in the design and development of a business application and use these steps to design and develop a specific application which incorporates both interactive and batch processing; design data base files using normalization; define/create physical and logical files using DDS and DFU; determine and design the necessary screens; and code, test, and debug the RPG/400 programs to implement the selected business application.
*Prerequisite: EDP 4445 and EDP 4314 or Departmental consent. (3-4) 5

***EDP 4516 CICS:** Upon completion of this course, students should be able to state the differences between Online and Batch programs; list the common characteristics of online applications; describe the qualities needed by a good telecommunications monitor; describe the data flow within the Customer Information Control System/Virtual Storage (CICS/VS) telecommunication monitor; define important tables and storage areas utilized by CICS/VS; code, compile and catalog physical and symbolic map descriptions (Screen formats) using the BASIC Mapping Support (BMS) facility of CICS/VS; code and execute Command Level COBOL programs for file record inquiry, file record creation, file record update, file record deletion, file browsing, link and transfer of control between independent programs; and define the CICS/VS statements necessary to use temporary storage.
*Prerequisite: EDP 3516. (3-4) 5

***EDP 4517 Batch Data Processing Applications:** Upon completion of this course, students should be able to identify the approach steps in design and programming of a batch business data processing application and use these steps in the design of a specific application; write programs to create and process files on tape and/or disk as required by the selected business application; write programs to include and/or state various programming requirements and techniques used in batch business application programming, such as the logic for matching, merging, data editing, multi-level control breaks, table processing, and various report formats; and code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisites: EDP 3516, EDP 4425, EDP 4314. (3-4) 5

***EDP 4518 Real Time Data Processing Application:** Upon completion of this course, students should be able to identify the approach steps in design and programming of a real time business data processing application and use these steps in design and programming of a specific application; work on a programming team in programming a complete application; make decisions regarding files, number, and scope of programs, and others regarding a particular computerized application; write programs to implement a particular application with VSAM file processing; and code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisites: EDP 4516, EDP 4435, EDP 4315, EDP 4317 (3-4) 5

EDP 5201 CRT Use in Business Applications: The CRT (Cathode Ray Tube display/keyboard) is more prominent as the computer becomes accessible to all areas of business. The course is designed to familiarize students with the general use of the CRT. Upon completion of this course, students should be able to describe the properties of CRT use; define the general use of functional keys; obtain particular display

screens upon request; use the CRT effectively for a menu-driven application; and perform the basic business transaction typically processed on a CRT. (2-0) 2

***EDP 5284 Cooperative Education Experience I:** Upon completion of this course, students should be able to demonstrate results of applied experience to complement class and lab instruction in Computer Operations.
* Permission of Co-Op staff. (0-20) 2

***EDP 5285 Cooperative Education Experience II:** A continuation of EDP 5284 which further refines student skills learned and practiced in Cooperative Work Experience I.
*Prerequisite: Successful completion of EDP 5284, and permission of Co-Op staff. (0-20) 2

***EDP 5425 Programming II—Operators:** Upon completion of this course, students should be able to explain the general purpose of the RPG Specification forms; code, debug, execute RPG programs to perform basic calculations; and generate reports involving control breaks, headings and form control.
*Prerequisites: EDP 1500, FIN 3314. (3-2) 4

***EDP 5524 General Data Processing Applications:** Upon completion of this course, students should be able to code the DOS and power JCL necessary to execute programs stored in a library and code the JCL for files to be used by the program; draw system operational flow charts; read a selected operator run sheet to determine devices, files backup and rerun procedures, type forms, form distribution, transaction/master file storage, and special control records for the jobs; prepare master file and transaction file records for a selected business data processing application; prepare a run schedule; run the programs and verify the results for a selected business data processing application; use return codes in controlling job step execution; and define selected terms associated with business data processing applications.
*Prerequisites: EDP 5614, ACC 3600; Corequisite: EDP 3514. (4-2) 5

EDP 5601 Data Entry I-A: This is the first course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the first two-thirds of EDP 5901. Upon completion of this course, students should be able to identify records; describe the process of record formatting; utilize various source documents; punch program cards for the keypunch machines; define selected terms related to data entry; be able to use a data entry workstation at an elementary level; and obtain an acceptable level of accurate keystrokes per hour. (3-9) 6

***EDP 5602 Data Entry I-B and II-A:** This is the second course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last one-third of EDP 5901 and the first one-third of EDP 5902. Upon completion of this course, students should be able to recognize data errors and correct them; perform operational procedures for transferring data from one medium to another; operate a data entry workstation at an intermediate level; and obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5601 or consent of instructor. (2-12) 6

***EDP 5603 Data Entry II-B:** This course is the third course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last two-thirds of EDP 5902. Upon completion of this course, students should be able to operate a data entry workstation at an advanced level; define the principles of the batch/edit routine; define the principles of program development of data entry applications; and obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5602 or consent of instructor. (3-9) 6

***EDP 5613 Computer Operations I:** Upon completion of this course, students should be able to list and perform the computer operator's duties in the operation of a printer, magnetic tape, magnetic disk, and console control devices; describe the hardware components of a business computer system; convert binary, hexadecimal, and decimal from one base to the other; interpret and use standard operator-run instructions; and run selected utility programs. The student will receive "hands on" experience on a computer system.
*Corequisite: EDP 1500. (5-2) 6

***EDP 5614 Computer Operations II:** Upon completion of this course, students should be able to identify the librarian used in DOS/VSE; understand how DOS/VSE implements the use of virtual storage; execute the procedures to IMPL and IPL; list and use operator commands for communicating with the DOS/VSE system; use the proper procedures for responding to error-related messages to system operation; identify the purpose and function of VSE/POWER; interpret job status confirmation; and use POWER operator commands. Students will receive "hands on" experience on a computer system.
*Prerequisite: EDP 5613. (5-2) 6

***EDP 5615 Computer Operations III:** Upon completion of this course, students should be able to trace the job flow in a multitasking computer environment; list the purpose and types of JCL statements for OS; use manuals to code JCL and execute selected utility programs available on computer system used by CPCC; define the various features of an operating system; and define OS operator commands and interpret OS operator messages.
*Prerequisite: EDP 5613. (5-2) 6

***EDP 5616 Computer Operations IV:** Upon completion of this course, students should be able to format the data and job control language to process a selected data processing application; create and use run instructions necessary to process a selected data processing application; operate a system with a DOS/VSE operating system; define means and methods of computer room and data security; utilize necessary manuals to solve error and recovery procedures; and present a written description of a menu system. Students will gain considerable "hands on" experience using a computer system in lab.
*Prerequisites: EDP 5614, EDP 5524. (4-4) 6

EDP 5901 Data Entry I: Upon completion of this course, students should be able to identify records; describe the process of record formatting; recognize data errors and correct them; utilize various source documents; define selected

terms related to data entry; use a data entry workstation at an elementary level; and obtain an acceptable level of accurate keystrokes per hour. (4-15) 9

***EDP 5902 Data Entry II:** Upon completion of this course, students should be able to operate a data entry workstation at an advanced level; define the principles of program development of data entry applications; perform operational procedures for transferring data from one medium to another; define the principles of the batch/edit routine; and obtain an acceptable level of accurate keystrokes per hour.
*Prerequisite: EDP 5901 or consent of instructor. (4-15) 9

EDU – Education

EDU 2500 Introduction to Education: Upon completion of this course, students should be able to demonstrate a knowledge of the development and present status of education in American society, with attention given to the objectives of democratic education and the role of the teacher in their implementation. (Does not satisfy Social Science requirement.) (5-0) 5

EDU 9300: See page 46.

ELC – Electrical Installation and Maintenance

ELC 5200 Electrical and Building Trades Blueprint Reading: Upon completion of this course, students should be able to interpret schematics and blueprints applicable to electrical installation; draw floor plans and indicate the electrical outlets as required by the National Electrical Code; read sectional views; explain specifications related to the building trades; discuss the types of materials used in construction trades; determine branch circuit sizing for lighting, motors, and electrical equipment; explain three-phase and single-phase services. (1-2) 2

***ELC 5296 Electrical Installation and Maintenance Co-Op:** Upon completion of this course, students should be able to apply the skills acquired in electrical installation and maintenance courses to actual working situations in the electrical installation and maintenance industry; produce a worklog sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of Electrical Installation and Maintenance Program courses. (0-20) 2

ELC 5302 Instrumentation: Upon completion of this course, students should be able to discuss basic industrial instrumentation when applied to temperature, pressure, level, flow, humidity transmission and control; apply instrumentation theory; adjust and calibrate instrumentation devices. (2-3) 3

ELC 5310 Electrical Schematics: Upon completion of this course, students should be able to identify symbols and abbreviations used in control circuits; draw one-line diagrams illustrating power and branch circuits; change a wiring diagram into a ladder diagram; describe how disconnects, overcurrent protection, overload relays, control devices, and motors are used in control circuits and how each is represented on a schematic. (2-3) 3

ELC 5400 Direct Current: Upon completion of this course, students should be able to describe the electrical structure of matter and electron theory; demonstrate a knowledge of the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits; demonstrate a working knowledge of Ohm's Law and Kirchoff's Law; describe the sources of direct current voltage potentials; analyze electrical circuits using appropriate instruments and schematic diagrams. (2-6) 4

ELC 5401 Basic Calculations for Electricians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the electrician's trade; calculate ratio and proportion; manipulate fractional and decimal numbers; use algebraic equations to solve problems encountered in the electrical field; understand trigonometric functions and their application to right angles; describe vectors and their use in alternating current applications. (4-0) 4

***ELC 5402 Alternating Current:** Upon completion of this course, students should be able to explain how electrical properties such as capacitance, inductance, voltage, amperage and resistance affect the circuit; list and describe the use of test instruments and how they are connected in a circuit; describe the principle of magnetism and electromagnetism; calculate the value of RMS, average, or peak-to-peak voltages for alternating current.
*Prerequisite: ELC 5400. (2-6) 4

***ELC 5403 Commercial and Industrial Wiring II:** Upon completion of this course, students should be able to plan and lay out wiring systems in industrial complexes; install bus duct and underfloor duct systems; install motors and auxiliary devices and perform maintenance on all systems.
*Prerequisite: ELC 5404. (2-6) 4

ELC 5404 Commercial and Industrial Wiring I: Upon completion of this course, students should be able to plan and lay out wiring systems in commercial complexes; install service and feeders using metallic and non-metallic conduit and wires; install panelboards and switchboards; perform maintenance on all systems, and describe causes of electrical energy waste and methods to improve operating efficiency. (2-6) 4

ELC 5410 Residential Wiring I: Upon completion of this course, students should be able to read prints related to the installation of electrical wiring and components in residences; plan, lay out and install wiring and electrical components in residential applications; become familiar with electrical devices, raceways, conductors, and boxes; state the National Electrical Code regulations for typical residential applications. (3-3) 4

ELC 5411 Industrial Electronics: Upon completion of this course, students should be able to describe the fundamentals, operating characteristics and application of solid state devices, electronic theory as it applies to circuit protective devices, relays, limit switches and sensing devices; describe electro-mechanical logic; disassemble, replace parts and reassemble electro-mechanical devices. (2-4) 4

***ELC 5425 Residential Wiring II:** Upon completion of this course, students should be able to read prints to determine types of circuits used and determine where they are located; determine size of wiring required for special circuits; compute service-entrance conductor size; compute raceways and conductor sizes, install wiring for heating and air conditioning equipment; state the National Electrical Code regulations as they pertain to residential applications.
*Prerequisite: ELC 5410. (2-6) 4

ELC 5426 Programmable Controllers I: Upon completion of this course, students should be able to change decimal numbers into binary; octal, binary coded octal, or hexadecimal values; demonstrate various types of logic circuits and their truth tables; program programmable controllers for simple commands; describe AND, NAND, OR, NOR, and NOT logic; calculate the outcome of combining different types of logic. (2-6) 4

***ELC 5427 Programmable Controllers II:** Upon completion of this course, students should be able to install input/output devices to the processor; describe how programmable controllers are used to control circuits without the use of external timers, counters, relays, and other electrical devices; explain the use of analog to digital and digital to analog converters; program complex circuits.
*Prerequisite: ELC 5426. (2-6) 4

ELC 5450 Machines and Controls I: Upon completion of this course, students should be able to describe the fundamental concepts in single-phase and poly-phase alternating current circuits; list symbols and abbreviations relating to motor controls; explain the use of transformers and their connections for particular applications; wire basic control circuits; identify types and disassemble and assemble contactors and motor starters. (2-6) 4

***ELC 5455 Machines and Controls II:** Upon completion of this course, students should be able to describe the difference in single-phase motors and three-phase motors; explain how a direct current motor operates; change motor rotation; use time-delay relays, counters, timers, limit switches, pressure switches, and other control devices in control circuits; list reasons for preventive maintenance.
*Prerequisite: ELC 5450. (2-6) 4

ELN – Engineering Technology (Computer/Electrical/Electronics)

ELN 3100 Computer/Electrical/Electronics Orientation: Upon completion of this course, students should have received an orientation to the College and to the Computer/Electrical/Electronics Engineering Technology programs, including the services and personnel available; have explored available electrical/electronic course specialization and associated career path opportunities, as well as continuing education possibilities, including the Bachelor of Engineering Technology (BSET) programs, and the benefit of membership in professional organizations, including the student section of IEEE; and have heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

***ELN 3404 Electronics I:** Upon completion of this course, students should be able to demonstrate a working knowledge of semiconductor diodes and their application in basic rectifier circuits; design proper DC bias for Class A transistor amplifiers; analyze the performance of small signal transistor amplifier circuits using simplified signal models; and analyze the biasing and power efficiency of Class B amplifiers.
*Prerequisite: ELN 3515. (3-3) 4

***ELN 3405 Electronics II:** Upon completion of this course, students should be able to utilize operational amplifier specification data to select and/or determine necessary discrete components and power requirements for common integrated circuit operational amplifier applications; design circuit applications for oscillators, comparators, inverting and non-inverting amplifiers, voltage regulators, zero cross detectors, and waveform generators; specify component characteristics, and assemble and test controlled power switching circuits and power supply regulators.
*Prerequisite: ELN 3404. (3-3) 4

***ELN 3414 Industrial Instrumentation:** Upon completion of this course, students should be able to specify an appropriate input transducer for interface in an electronic control system for measurement of temperature, pressure, light, et al; specify appropriate output control element requirements and/or device for recording, display, and process control; integrate input and output transducers with electronic signal conditioners (e.g., op-amps) and control systems; and interface digital and analog devices with industrial control equipment.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 3514 Basic Electricity (DC):** Upon completion of this course, students should be able to calculate voltage, current, resistance, power, and energy of series, parallel and combination series-parallel resistive circuits with DC power supplies; calculate equivalent resistance; measure these circuit parameters and verify the results of calculations; properly use laboratory test equipment to measure circuit parameters; interpret passive circuit diagrams and symbols; interconnect components shown on standard circuit diagrams to produce functioning circuits; calculate voltage, current, charge and energy of series, parallel and combination series-parallel resistive-capacitive-inductive steady state circuits with DC power supplies; calculate equivalent capacitance and inductance; predict the instantaneous values of voltage and current in R-C and R-L circuits given a switch transition in the circuits; calculate instantaneous values of voltage, current, charge, and energy in series R-C and series R-L circuits; and calculate the time constants and settling time for R-C and R-L circuits.
*Corequisite: MAT 3507. (3-6) 5

***ELN 3515 Basic Electricity (AC):** Upon completion of this course, students should be able to select values of R, C, and L required to produce any desired voltage, current, and impedance in AC circuits; analyze R-L-C series, parallel and combination circuits and draw phasor diagram representing voltage and current, impedance diagrams representing resistance and reactance; calculate L-C values required in resonant circuits; analyze resonant circuits; correct power factor when required and calculate true power, apparent power, and reactive power in AC circuits; and select proper transformers in low frequency circuits for impedance matching, voltage step-up or step-down, and test for proper operation in these circuits.
*Prerequisite: ELN 3514; Corequisite: MAT 3508. (3-6) 5

***ELN 4100 Technical Career Planning:** Upon completion of this course, students should be able to identify and define the various career roles available to the Computer and Electrical/Electronics Engineering Technician; write an acceptable resume; and demonstrate satisfactory skills required in the job-hunting process.
*Prerequisite: ELN 3405. (1-0) 1

***ELN 4284 Cooperative Work Experience:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledge of careers in the Computer/Electrical/Electronics Engineering Technology industry; and gain applied experience to complement classes and lab instruction.
*Prerequisite: 45 credit hours earned in residence toward Engineering Technology degree, permission of Co-Op Office, and COE 3100. (0-0-20) 2

***ELN 4285 Cooperative Work Experience II:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Computer, Electrical, Electronics Engineering Technology industries; and demonstrate results of applied experience to complement class and lab instruction.
*Prerequisites: ELN 4284 and permission of Co-Op Office. (0-0-20) 2

***ELN 4326 Electrical-Electronics Project:** Upon completion of this course, students should be able to lay out and produce a printed circuit board; install components; test the circuit; evaluate performance and provide a detailed technical report on the project.
*Prerequisite: ELN 3405, ELN 4464, ENG 3405. (1-6) 3

***ELN 4345 Advanced E/E Topics:** In this course, students will solve a wide variety of problems illustrating advanced applications of Electrical/Electronics principles. Topics may include microprocessor applications and design, power electronics and control, programmable logic controllers (PLC's), medical electronics, and advanced communications. Specific topic(s) may vary from quarter to quarter.
*Prerequisite: ELN 3405 and consent of Program Director. (1-6) 3

***ELN 4355 Laser Technology:** Upon completion of this course, students should be able to demonstrate proper safety procedures when operating a laser or a laser system; operate helium-neon and semiconductor lasers; know the principles of lasing, laser design, properties of laser light, laser classification and their characteristics; biological effects of laser radiation, and laser safety standards.
*Prerequisite: ELN 3404. (2-3) 3

***ELN 4401 Planning Electrical Installations:** Upon completion of this course, students should be able to have an understanding and appreciation for the value of the Underwriters Laboratories and the National Electrical Code; use the N.E.C. to determine safe standards for planning electrical installation; plan and calculate lighting and power systems for commercial and industrial installations; and estimate and specify commercial and industrial lighting and power systems.
*Prerequisite: ELN 3515. (3-3) 4

***ELN 4414 Introduction to RF Communications:** Upon completion of this course, students should be able to calculate and measure the resonant frequency of various L-C circuit combinations; calculate and measure bandwidth of resonant L-C circuits; draw block diagrams and trace signal of typical AM and FM receivers and transmitters; perform alignment of receiver and transmitter coupling circuits for acceptable performance by using appropriate test and measuring equipment and techniques; and perform technical analysis of AM and FM receiver and transmitter circuits as follows: frequency multipliers, small signal and large signal voltage and power amplifiers, oscillators, and AM and FM detectors.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4415 Industrial Programmable Controllers:** This course presents the basic principles and practical applications of Programmable Logic Controllers (PLC's). Upon completion of this course, students should be able to convert relay ladder diagrams to PLC programs; design PLC programs for practical industrial applications; utilize peripheral devices such as recorders, input/output modules, CRT's, and printers; and execute programs in the laboratory controlling the simulated operation of typical industrial control systems.
*Prerequisite: ELN 4427 or consent of Program Director. (3-3) 4

ELN 4416 Computer Maintenance I: Upon completion of this course, students should be able to identify the various components of a microcomputer system; use diagnostic software to aid in troubleshooting and in the routine maintenance of microcomputers; properly install new hardware and software, such as printers, plotters, LAN cards, serial ports, etc.; install software drivers in the support of new hardware devices; use appropriate diagnostic methods to localize and repair hardware problems at the board level; and show competence in the theory of operation of microcomputers and peripheral devices. (3-3) 4

***ELN 4424 Computer Maintenance II:** This course is a continuation of ELN 4416 Computer Maintenance I. Upon completion of this course, students should be able to troubleshoot a microcomputer and its peripheral devices (such as printers, monitors, disk drives, and MODEMs) to the component level using software, logic analyzers, oscilloscopes, voltmeters, and ohmmeters; perform routine preventive maintenance on the microcomputer and its peripheral devices; and document all procedures related to the repair of faulty equipment or the preventive maintenance routinely performed on this equipment.
*Prerequisite: ELN 4427, ELN 4416. (3-3) 4

***ELN 4427 Digital Circuits I:** Upon completion of this course, students should be able to specify the improvements and advantages that digital circuitry provides in electronic equipment and devices; use binary numbers and codes to perform binary arithmetic; read logic diagrams and use manufacturers's specifications to determine operating characteristics and functions of digital circuits; draw a digital schematic circuit using proper drafting techniques; reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; implement circuitry using AND, NAND, NOR, and inverter gates; explain the difference between R-S, D, and J-K flip-flops; recognize the difference between level vs. edge triggering and synchronous vs. asynchronous inputs; understand the significance of prop-

agation delays, set-up time, hold time, and maximum frequency as it applies to flip-flops; and construct and verify the operation of various digital circuits in a laboratory setting.
*Prerequisite: ELN 3404. (3-3) 4

***ELN 4434 Digital Circuits II:** Upon completion of this course, students should be able to utilize decoder circuitry to drive LED's for displaying readouts; use both astable and monostable multivibrators for timing and control of digital circuits; use multiplexer and demultiplexer IC's; demonstrate an understanding of data busing concepts; use digital to analog and analog to digital converters to interface electronic circuitry; implement addressing and movement of data in RAM and ROM; recognize J-K flip-flop as the building block for the design of counters and storage and shift registers; use synchronous and asynchronous counter IC's; cascade several counters to achieve a higher modulus; draw a microcomputer system in block diagram form; and explain the operation of a basic microprocessor.
*Prerequisite: ELN 4427. (3-3) 4

***ELN 4436 Systems Correction Procedure:** Upon completion of this course, students should be able to diagnose defects in E/E circuits or systems given appropriate diagrams and operational specifications; evaluate in the laboratory their test results on an assigned circuit or system, and define repair procedures necessary to return equipment to a normal operating condition. Test equipment consisting of EVM, ammeter, oscilloscope, signal generators, and frequency counter will be used in the troubleshooting repair process.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4437 Robotics:** Upon completion of this course, students should be able to understand robot terminology; classify robots and robotic systems by geometry, power source, application, path control, and intelligence; identify safety precautions necessary in a robotics/automation environment; identify basic end of arm tooling considerations; demonstrate an understanding of the advantages and operation of both open loop and closed loop control systems; design software for teaching and operating a robot for performance of a specified task; demonstrate an understanding of sensor and system interface requirements between the robot and support hardware; identify, troubleshoot, and correct basic hardware/software problems; design a robot software/hardware project using a computer for control; demonstrate an understanding of basic controller operation; and effectively use wiring diagrams and maintenance manuals in isolating and debugging system problems.
*Prerequisites: ELN 4427, EDP 1407. (3-3) 4

***ELN 4444 Network Analysis:** Upon completion of this course, students should be able to determine series and parallel equivalent circuits; simplify DC and AC circuits to Thevenin's and Norton's equivalent; calculate electrical properties of DC and AC network circuits using superposition, mesh and nodal analysis; transform delta equivalent circuits to wye, and wye to delta; and experimentally prove the above in the laboratory.
*Prerequisites: ELN 3515, MAT 3508. (3-3) 4

***ELN 4445 Advanced Programmable Logic Controllers:** This course presents advanced principles and practical applications of programmable logic controllers (PLC's). Upon completion of this course, students should have an understanding of basic industrial process control types, industrial communication links including RS-422 and 4-20 ma. current loop, networking principles; design PLC programs involving analog inputs and outputs, remote I/O, and data collection; and utilize sensors, status displays, and networking in the laboratory to control various simulated industrial process and control systems.
*Prerequisite: ELN 4415 or consent of the Program Director. (3-3) 4

***ELN 4454 Data and Computer Communications I:** Upon completion of this course, students should be able to demonstrate efficiency in asynchronous, bisynchronous, and synchronous transmission techniques, parallel and serial transmission, and general characteristics of UART and USART interfaces; identify methods of generating 20-milliamp current, optical couplers, line drivers and repeaters, 2-wire and 4-wire conditioning, and calculations of DB levels; demonstrate an understanding of RS-232 standards, EIA, CCITT, RS-422, and RS-243; clock distortion, bias, attenuation, echo suppression, as well as frequency spectrum and error detection techniques; exhibit proficiency in time and frequency multiplexing, packet, block message and bit switching; identify modem types and define simplex, half duplex, full duplex, half duplex supervisory, and half duplex reverse channel; demonstrate the differences in parity checking, cyclic redundancy, longitudinal redundancy, barber pole, and block check character; explain remote job entry, high level datal link control (HDLC), and synchronous data link control (SDLC); and perform calculations of speed versus distance performance curves.
*Prerequisites: EDP 1407, ELN 4547, ELN 4434. (3-3) 4

***ELN 4455 Data and Computer Communications II:** Upon completion of this course, students should be able to explain the concepts of channel sharing networks; explain the differences between narrow, voice grade, and wide band speed categories; show the uses and operation of point-to-point, multipoint, and multilink systems; list the differences in and advantages of message and packet switching; identify and define the theory and operation of local area networks; demonstrate the differences in line control of asynchronous and synchronous lines; use batch, terminal clusters, and point-of-sale terminals; and use and write basic software functions to initiate and control, assemble, and edit messages, code conversion, scan or poll on a line, priority schedule and line queues.
*Prerequisite: ELN 4454. (3-3) 4

***ELN 4456 Local Area Networks:** Upon completion of this course, students should be able to define the characteristics of a local area network (LAN); install and maintain a LAN; measure LAN performance using software and instrumentation; and interconnect LAN's.
*Prerequisite: EDP 3335 or consent of Program Director. (3-3) 4

***ELN 4464 Electronic Circuit Design (CAD) I:** Upon completion of this course, students should be able to demonstrate an understanding of the graphic language of CAD; identify the components of a CAD system; have a working knowledge of basic commands; draw elements of drawings, such as line, circles, arcs, curves, etc.; draw basic electrical/electronic circuits, including schematic diagrams, wiring diagrams, and printed circuit layout; and use a plotter to prepare an acetate layout ready for exposure.
*Corequisite: ELN 3404. (2-6) 4

***ELN 4465 Electronic Circuit Design (CAD) II:** This course is a continuation of ELN 4464. Upon completion of this course, students should be able to identify existing library symbols and create new figures as needed; create schematic diagrams using stored symbols and connect them together assigning all pin numbers, reference designators, values, and part numbers; create printed circuit board outline and place components on the board; merge the information from the schematic and printed circuit board files so that all connecting nodes are correctly identified; and use routing features to make the required connections among components to complete the design and layout of a complex electronic circuit.
*Prerequisite: ELN 4464. (2-6) 4

***ELN 4466 Advanced Local Area Networks:** This course is a continuation of ELN 4456, Local Area Networks. It is designed to provide advanced training for network supervisors and administrators. Upon completion of this course, students should be able to install and manage a local area network; establish effective network security by assigning rights and privileges appropriate to users, groups, and managers; install external and remote routers; establish remote computing capability for network users; and integrate multiple workstations and/or servers on the network, including multiple versions of DOS and OS/2.
*Prerequisite: ELN 4456. (3-3) 4

***ELN 4468 Advanced Microprocessors:** Upon completion of this course, students should be able to write software for a 16/32 bit microprocessor with the aid of an editor, assembler, and simulator; test and debug software with the aid of a simulator; and interface I/O devices to the microprocessor system.
*Prerequisite: ELN 4547. (3-3) 4

***ELN 4474 Electro-Optics:** Upon completion of this course, students should be able to understand the fundamentals of operation and circuit applications for optical electronic devices, including displays, optocouplers, photodiodes, phototransistors, detectors, and photovoltaic cells; and use electro-optic components for control and data transmission; evaluate system performance parameters, including supply voltage, drivers, multiplexing, strobing, spectral peak wavelength, and aging problems.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4475 Fiber Optics:** Upon completion of this course, students should be able to specify the advantages that optical fibers provide over conventional cables; define fiber types and mode characteristics; couple light sources into fibers; prepare and inspect fiber ends; splice fiber and install connectors; measure numerical aperture and attenuation; use an Optical Time Domain Reflectometer to measure fiber length and to locate anomalies; use fiber optics in a communication link utilizing wavelength division multiplexing/demultiplexing; and use fiber optic interferometric sensors to measure temperature and pressure in a laboratory setting.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4485 Microwave Communications:** Upon completion of this course, students should be able to recognize and apply microwave devices and components; select microwave transmission lines and matching devices; tune microwave cavities; select and apply microwave solid-state and vacuum tube devices; produce and understand a block diagram of a microwave receiver; and perform accurate microwave power measurements.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4505 Power Electronics:** Upon completion of this course, students should be able to perform basic circuit design; select components, breadboard in the lab; and evaluate operational performance of the following industrial electronic circuits: industrial rectifiers, thyristor phase shift control, electronic DC motor control, switching transistor power control, variable frequency AC motor control.
*Prerequisite: ELN 4525, ELN 3405. (3-6) 5

***ELN 4525 Electrical Machines I:** Upon completion of this course, students should be able to specify the factors required to induce a voltage and develop force in simple generators and motors; show visually the physical relation and polarities of the above factors; calculate induced voltage in generators; calculate developed force and torque in motors; calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency, and the physical quantities of torque, speed and horsepower for DC generators, DC motors, transformers, alternators, three-phase motors, and single-phase motors; and select and wire motors, generators, transformers, meters, and loads in the laboratory as required to obtain operational data and evaluate performance of the above.
*Prerequisite: ELN 3515; Corequisite: PHY 1404. (3-6) 5

***ELN 4526 Electrical Machines II:** Upon completion of this course, students should be able to analyze and evaluate the electrical and mechanical characteristics of synchronous motors, alternators in parallel, three-phase transformers, and autotransformers, perform motor, generator, and transformer efficiency evaluations, and compute efficiencies at various operating loads; determine, select, and evaluate overload and short circuit protective devices for optimum motor protection; design and evaluate performance of various AC and DC motor control circuits; and conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits.
*Prerequisite: ELN 4525. (3-6) 5

***ELN 4547 Microprocessors I:** Upon completion of the course, students should be able to utilize a microprocessor-based system for digital control and monitoring; interpret specifications and characteristics of the integrated circuitry associated with a microprocessor, including RAM, ROM, PROM; demonstrate the application of peripheral devices which interface with a microprocessor; interpret machine instructions and trace their execution through a typical system; write programs using both machine and assembly language; and execute and debug programs using individual microcomputer systems.
*Prerequisites: ELN 4427, EDP 1407. (3-6) 5

***ELN 4557 Microprocessors II:** A continuation of ELN 4547. Upon completion of this course, students should be able to design a monitor program for a microprocessor-based system; write the necessary software with the aid of an editor and assembler; design appropriate I/O interfacing; and debug, test, and document the microcomputer system.
*Prerequisite: ELN 4547. (3-6) 5

***ELN 4567 Microcomputer System Design:** Upon completion of this course, students should be able to design a microprocessor-based system; interface memory to the microcomputer system; interface peripheral devices to the microcomputer system; construct a working system; and use a logic analyzer to test and debug the system.
*Prerequisite: ELN 4547. (3-6) 5

ENG – English

ENG 1324 Creative Writing: This course is designed to provide students with the opportunity to practice the craft of writing, to find pleasure in writing as a means of self-expression, and to explore techniques which aid in sharpening their writing styles. Emphasis is placed on the basic elements of fiction and poetry. Students' writings are read and analyzed in class. (3-0) 3

***ENG 1325 Advanced Creative Writing:** For students with creative work already in progress, this course probes the practical aspects of technique, style, and development with an emphasis on the short story and poetry. Students' writings are analyzed in class. Attention is given to the process of revision, refining, and shaping the work into a polished form.
*Prerequisite: ENG 1324 or consent of Department Head. (3-0) 3

ENG 1333 Science Fiction: In this course, science fiction is studied in historical perspective. Upon completion of the course, students should be able to differentiate between science fiction and other literary genres; trace the themes and development of science fiction; and recognize the influence of science fiction on contemporary culture. (3-0) 3

ENG 1334 The Novel: In this course, five works selected from American, British, French, Russian, and Spanish literature are studied. Upon completion, students should have an understanding of the novel as a literature genre and a knowledge of the cultural tradition out of which each work emerged; be able to differentiate between the literary methods and techniques of the respective writers; have discovered the novel as a representation of life. (3-0) 3

ENG 1335 Classic Fairy Tales: This course is designed to explore the fairy tale as a literary art form with distinct archetypal patterns. Upon completion, students should be able to analyze fairy tales from a structural, social, psychological, and archetypal perspective. (3-0) 3

***ENG 1504 English Composition I:** This course deals with the development and improvement of thinking skills and the effective use of language, particularly in writing multi-paragraph assignments. Upon completion of this course, students should be able to recognize and use such logical processes as causation, comparison-contrast, classification, and analysis. They should also be able to evaluate and revise their own writing.
*Prerequisite: Approved placement examination score, successful completion of ENG 9510, with a C grade or better in ESL 9549, or consent of Department Head. (5-0) 5

***ENG 1505 English Composition II:** This course is designed to provide students with opportunities to develop critical thinking skills which will be used in interpreting and writing analytical compositions about short prose and either drama or poetry. Upon completion of this course, students should be able to write critically and objectively, and to use basic research techniques to write a formally documented research paper.
*Prerequisite: ENG 1504 or consent of Department Head. (5-0) 5

ENG 2308 Report Writing: In this course, students will learn to design and implement procedures for gathering, analyzing, and refining data to be used in a variety of writing situations that occur in the workplace, including informal and formal reports. In addition, students will learn techniques to increase writing fluency and clarity. (3-0) 3

***ENG 2314 Contemporary Fiction:** This course is a study of writers who have published distinguished fiction since 1945. Upon completion, students should have studied selected works of these writers; recognized philosophical, ethnic, regional, and stylistic trends reflected in the literature; and have greater competence in analyzing literature.
*Prerequisite: ENG 1505 or consent of Department Head. (3-0) 3

ENG 2324 The Bible as Literature: This course is a study of selected portions of the Bible. Upon completion, students should recognize the Bible as literature, containing myth, legend, saga, lyric poetry, drama, short story, and biography; be able to identify Judeo-Christian ideas as they are reflected in the material studied; be able to state changes in concepts and values during the span of Biblical history. (3-0) 3

***ENG 2390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Department. Objectives will be determined by the student and the sponsoring instructor.
*Prerequisite: Approval of the sponsoring instructor and the Department Head. (3-0) 3

***ENG 2504 British Literature, 1300-1800:** This course is a study of selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare, and Milton. Upon completion of this course, students should be familiar with selected works of the writers of the period; have an awareness of the development of the English language and of literary trends during the period; be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of Department Head. (5-0) 5

***ENG 2505 British Literature, 1800-Present:** This course is a study of selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, Tennyson, Eliot, Conrad, Shaw, Hardy, and Yeats. Upon completion, students should be familiar with selected works of the writers studied; be able to characterize romantic, Victorian, and modern British literature; be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of Department Head. (5-0) 5

ENG 2510 World Literature to 1800: This course is an overview of the literature of various cultures from ancient time to the 17th Century. Upon completion, students will

have gained a broadened perspective of the types of writing that constitute literature and understand the relationshop between cultures and the literature they produced. (5-0) 5

***ENG 2514 American Literature, 1800-1900:** This course is a study of selected works of American writers before 1900, with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Twain, and Dickinson. Upon completion, students should have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers, and to show greater competence in interpreting, analyzing, and evaluating literature, as well as in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of Department Head. (5-0) 5

***ENG 2515 American Literature, Modern:** This course is a study of selected works of major American writers, including Crane, James, Robinson, Frost, O'Neil, Anderson, Dreiser, Hemingway, Wolfe, Faulkner, Fitzgerald, and Bellow, with emphasis on their interpretations of the modern era. Upon completion, students should have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers; be able to show greater competence in interpreting, analyzing, and evaluating literature; as well as in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of Department Head. (5-0) 5

***ENG 3405 Technical English II:** Upon completion of this course, students should be able to prepare various types of business communications including letters and memoranda. They should also be able to use multiple resources and research techniques to prepare informal reports related to their chosen programs, and to produce other related communications including definitions, descriptions of mechanisms, processes, and abstracts.
*Prerequisite: ENG 1504 or consent of Department Head. (4-0) 4

ENG 3515 Essentials of Grammar: Upon completion of this course, students should be able to identify constructions, forms, and usages of words and the relationship of words within a sentence. They should also be able to compose sentences according to given structural patterns and to apply basic rules of grammar. (5-0) 5

***ENG 4324 Copywriting I:** In this course, students will learn the basics of writing effective copy for print media (newspapers and magazines). They will produce copy and layouts, and be able to fit copy using appropriate type specifications.
*Prerequisite: ENG 1504 or consent of Department Head. (3-0) 3

***ENG 4325 Copywriting II:** In this course, students will apply copywriting basics to produce copy for broadcast media (radio and television) and outdoor advertising in appropriate formats to include storyboard for television.
*Prerequisite: ENG 4324 or consent of Department Head. (3-0) 3

ENG 5500 Communications Skills: Upon completion of this course, students should be able to spell and define words directly related to their technical or trade areas; write job-related letters and a personal resume; discuss a given topic both orally and in writing; demonstrate familiarity with periodicals in their trade fields. (5-0) 5

ENG 9500, ENG 9505, ENG 9510: See page 47.

ESL – English As a Second Language. *See page 44.*

FAS – Fashion Merchandising and Marketing

FAS 3300 Introduction to Fashion Merchandising: Upon completion of this course, students should be able to understand the nature of the business enterprise; and the industrial practices involved in the design, production, retailing, and consumption of fashion products, with emphasis on marketing/merchandising activities and interrelationships. (3-0) 3

FAS 3210 Fashion Show Production: Upon completion of this course, students should be able to recognize the different objectives of different types of fashion shows and activity. The course culminates in an actual show planned and implemented by the students. (1-2) 2

FAS 3310 Retail Advertising and Promotion: Upon completion of this course, students should be able to recognize various advertising and promotional activities specific to retailers, including publicity and specialty advertising as part of overall fashion marketing strategies and budgets. (3-0) 3

FAS 3320 Psychology of Fashion: Upon completion of this course, students should be able to understand the interrelationship between fashion and its cultural, social, psychological, economic, and aesthetic implications. (3-0) 3

FAS 4220 New York Field Study: Upon completion of this course, students will be able to explain the operation of the fashion industry after attending seminars, workshops and field trips to various apparel manufacturers. A written report will be required upon completion of the New York experience. (2-0) 2

FIN – Finance

FIN 3303 Personal Investing: Upon completion of this introductory course in investments, students should be able to plan investments and describe the process of investing; analyze returns on investments using financial ratios; discuss securities markets and regulation of securities markets; understand terminology and terms pertinent to stocks, bonds, and other securities; and discuss various investments such as securities, insurance plans, real estate, mutual funds, and tax-sheltered annuities. (3-0) 3

FIN 3314 Business Mathematics I: Upon completion of this course, students should be able to add, subtract, multiply, and divide whole numbers, fractions, and decimals. In addition, students should be able to use these operations to solve

equations and percent problems, as well as problems related to checking accounts, banking services, payroll, sales and property taxes, and various types of insurance. (3-0) 3

***FIN 3315 Business Mathematics II:** Upon completion of this continuing study of business mathematics, students should be able to apply the basic arithmetical functions to the following business situations: retailing (cash and trade discounts, markup and markdown); financing (simple and compound amounts, installment credit and annuities); investing (stocks with distribution of dividends and bonds); and evaluating (basic statistics).
*Prerequisite: FIN 3314. (3-0) 3

FIN 3330 Real Estate Arithmetic: Upon completion of this course, students should be able to apply basic arithmetical processes to solve problems in real estate, including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization and investments. (3-0) 3

FIN 4300 Analyzing Financial Statements—AIB: This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to describe the need for credit investigation and appraisal; define and describe financial statement analysis; prepare financial statements, including the income statement and balance sheet; apply analytical formulae to interpret these statements; and prepare a cash budget and operating budget. (3-0) 3

***FIN 4317 Financial Statement Analysis:** This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. Upon completion of the course, students should be able to apply various techniques of analysis to determine a firm's financial position and to interpret its operating results.
*Prerequisite: ACC 1604. (3-0) 3

***FIN 4334 Business Finance I:** Upon completion of this course, students should be able to explain the basic forms of business organization; compute a corporation's tax liability; compute and interpret financial ratios; prepare a cash budget; compute various break-even points and degrees of leverage, and apply concepts of break-even analysis and leverage; compute cost of capital for debt and equity; apply present value concepts to evaluate various investment alternatives; and employ capital budgeting techniques to evaluate long-term investment projects.
*Prerequisite: ACC 1604. (3-0) 3

***FIN 4335 Business Finance II:** Upon completion of this continuing study of business finance, students should be able to explain the financing of corporations and other business entities; explain and evaluate a firm's capital structure, explain the various strategies of working capital management; evaluate changes in receivables and inventory management policies; explain the advantages of leasing, and evaluate lease-purchase alternatives; compute the cost or savings of a bond refunding; and explain various corporate dividend policies.
*Prerequisite: FIN 4334 (3-0) 3

***FIN 4336 Financial Management:** This course covers finance functions relating to buying, operating, and selling a business. Emphasis is placed on problem-solving and the development of analytical skills rather than on theory. Upon completion of this course, students should be able to solve problems related to valuation, financial analysis, capital budgeting, working capital management, inventory management, and management of other business assets.
*Prerequisite: FIN 4335. (3-0) 3

FIN 4350 Personal Financial Management: This consumer-oriented course will enable students to become better consumers and managers of their own financial situation. Upon completion of this course, students should have a basic understanding of consumer laws, protection and remedies; family budgeting and financial planning; and uses of credit and its potential problems. Awareness of consumer rights and responsibilities on the part of each student is emphasized throughout the course. (3-0) 3

FIP – Fire Protection

FIP 3200 Fire Protection for Hospitality Education: Upon completion of this course, students should be able to define fire triangle, flash point, ignition temperature, heat production and heat transfer; describe the operating principles, care, and inspection processes of fixed extinguishing systems used in modern kitchens; describe the fire codes and fire prevention codes applicable to the Hotel/Motel Industry; and correctly extinguish a small pit fire using a hand-held fire extinguisher. For Hospitality Program students only. (2-0-0) 2

FIP 3301 Fire Prevention Programs and Public Relations: Upon completion of this course, students should be able to list and discuss the principles and applications of fire prevention related to the community and industrial plants; discuss the development and maintenance of fire prevention programs, educational programs, and inspection programs; and apply related disciplines to fire prevention problems. (2-2-0) 3

FIP 3303 Fire Protection I: Upon completion of this course, students should be able to list and describe the goals of the Williamsburg Conference; evaluate current trends and loss patterns using current statistics; describe the fire characteristics and hazards of flammable and combustible materials; and describe the role of federal-related agencies. (3-0-0) 3

FIP 3309 Leadership and Team Building: Upon completion of this course, students should be able to identify the principles of group development that promote team work, identify beneficial and harmful group behavior, and identify methods of communicating common goals through oral, written, verbal and non-verbal communication. (3-0-0) 3

FIP 3401 Plant Emergency Operations: Upon completion of this course, students should be able to define, in relation to the industrial facility, the regulatory requirements as imposed by OSHA, insurance carriers, and other regulatory agencies; develop a plan of interfacing with outside assisting emergency organizations; develop a procedure for organizing, staffing, and training a plant emergency brigade. (3-2-0) 4

***FIP 3404 Chemistry of Flammable Materials:** Upon completion of this course, students should be able to list and describe theories of combustion and extinguishment; analyze flammable materials and describe the nature of extinguishing

agents; list the properties of matter affecting fire behavior; discuss the use, storage, and disposal of flammable solids, liquids, gases, and dust, using the laws and principles of chemistry and physics as a basis for discussion.
*Prerequisite: CHM 1500. (3-2-0) 4

***FIP 3405 Flame Propagation and Material Rating:** Upon completion of this course, students should be able to explain the three basic elements which determine the fire hazards of a building; define the different types of interior finish to exclude trim and incidental finishes; calculate the flame spread behavior of floor covering systems to include cellulosic materials, carpet materials, and certain floor tiles.
Note: Students must have Student Accident Insurance.
*Prerequisite: Student Accident Insurance. (2-4-0) 4

FIP 3406 Arson Investigation I: Upon completion of this course, students should be able to compare and contrast the facts, truths, trends, and statistics pertaining to loss of life and property from accidental and incendiary fires; identify the effects of fire and its behavior, including the factors which influence the spread of fires, such as weather, heat transformed, and spontaneous heating; categorize, list, and document the fire scene and submit evidence for scientific examination. (3-2-0) 4

***FIP 3408 Arson Investigation II:** Upon completion of this course, students should be able to examine a fire area to determine point of origin; describe the legal ramifications of preserving the fire scene and protecting the corpus delecti; and describe how to present testimony in the manner expected of an expert witness.
*Prerequisite: FIP 3406. (3-2-0) 4

FIP 4304 Fire Protection Law: Upon completion of this course, students should be able to list and discuss pertinent laws and ordinances, codes of fire protection, and the responsibilities and powers of individuals or organizations concerning enforcement; discuss liability of fire protection personnel when making inspection, recommendations, fighting fires, and other tasks; and discuss specific court cases including tort, terms, and contracts. (3-0-0) 3

***FIP 4309 Incident Management Systems:** Upon completion of this course, students should be able to list the elements of an effective emergency management system, apply the ICS to various emergency incident scenarios, and demonstrate the ability to use the major functions of the ICS through structured small group activities and the Fire Ground Simulator.
*Prerequisite: FIP 4409. (3-0-0) 3

FIP 4314 Methods of Teaching: Upon completion of this course, students should be able to define learning; describe the steps necessary in motivating learning; list parts of a lesson plan; develop lesson plans for classroom presentations; write behavioral objectives; prepare and present class presentations within a structured time and topic framework. (3-0-0) 3

***FIP 4403 Hydraulics for Fire Protection:** Upon completion of this course, students should be able to describe the flow of fluids through fire hoses, nozzles, appliances, and measure fluid flow accurately using appropriate methods of determining quantities of water available through fire systems.
*Prerequisite: MAT 3504. (3-2-0) 4

***FIP 4404 Water Distribution Systems:** Upon completion of this course, students should be able to identify and describe sources of water, water storage, measurement of fluid flow, and methods of determining quantities of water available from a distribution system.
*Prerequisite: MAT 3504. (3-2-0) 4

FIP 4405 Sprinkler and Standpipe Systems: Upon completion of this course, students should be able to identify and describe the various types of sprinkler and standpipe systems; list and discuss system devices and their operations to include advantage of sprinkler systems, codes governing installation, water supply requirements, testing, inspection, and maintenance. (3-2-0) 4

FIP 4409 Fire Department Tactics and Strategy: Upon completion of this course, students should be able to list the eight components of leadership and explain the transition to become an effective officer; list and explain the critical fire behavior factors that relate to tactical operations for an assigned fire scenario; and, given a structural fire scenario, demonstrate the ability to develop a strategy using the command sequence. (3-2-0) 4

FIP 4414 Inspection Principles and Building Codes: Upon completion of this course, students should be able to list fundamentals of fire inspection including standards, techniques of evaluation of hazards by degrees, and practical recommendations; inspect buildings and write reports on each building, to include maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements. (3-0-3) 4

FIP 4423 Portable and Fixed Extinguishing Systems: Upon completion of this course, students should be able to list and describe the various types of portable and fixed extinguishing systems, their operation, application, installation, and maintenance; and demonstrate skill in operating portable and fixed extinguishing systems. (3-2-0) 4

FIP 4424 Automatic Alarm Systems: Upon completion of this course, students should be able to list and describe the types of standard and special fire alarm and fire detection systems to include discussion of their operations, installation, requirements, testing, inspections, and maintenance. (3-2-0) 4

***FIP 4434 Chemical and Radiation Hazards:** Upon completion of this course, students should be able to list and describe the hazards encountered in chemical and petroleum industries; list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; list and describe common uses of radioactive materials, their transportation and storage; and demonstrate skills of chemical and radioactive inspections.
*Prerequisite: FIP 3404. (3-2-0) 4

FIP 4444 Fire Fighting Strategy: Upon completion of this course, students should be able to list and describe tactics and strategies in extinguishing fires; list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; demonstrate appropriate response to simulated crises. (3-2-0) 4

FIP 4454 Building Construction: Upon completion of this course, students should be able to list and discuss building codes applicable to fire prevention; list and describe the principles and practices used in various types of building construction. (3-2-0) 4

***FIP 4464 Hazardous Material Analysis and Emergency Planning:** Upon completion of this course, students should be able to describe the various hazard survey principles and techniques for detecting the presence of hazardous materials in industrial/commercial occupancies; demonstrate the use of reference resources and identification systems for hazardous materials properties; and develop a preplan from on-site visits of an oil/gasoline tank farm, railroad terminal yard, LPG tank storage farm, and a chemical plant.
*Prerequisite: FIP 4434. (2-4-0) 4

FIP 4509 Managing Our Fire Department: Upon completion of this course, students should be able to list and describe the responsibilities and duties associated with first level chief officers; describe city budgeting and purchasing processes as it relates to fire Department operations; discuss proactive fire protection delivery methods, station locations, design and construction; and describe inter-agency relations and fire Department media responsibility. (5-0-0) 5

***FIP 4510 Hydraulic Design of Sprinkler Systems:** Upon completion of this course, students should be able to define all the design inputs necessary to perform the hydraulic calculations as defined in Chapter 7 of the latest edition of NFPA 13; describe the significance of a hydraulic reference point; prepare a typical input file for a computer aided sprinkler design analysis program; and design an automatic sprinkler system in accordance with Chapter 7, NFPA 13, given the preliminary pipe geometry, available water supply data, and the NFPA 13 occupancy classification.
*Prerequisite: MAT 3504, FIP 4405. (4-2-0) 5

FRE – French

^ *Satisfies humanities requirement.*

FRE 1600 Elementary French I: Upon completion of this course, students will have a knowledge of some basic elements of French in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

***FRE 1601 Elementary French II:** This course is a continuation of FRE 1600. Students will learn basic elements of conversation, reading, and writing. (Does not satisfy humanities requirement.)
*Prerequisite: FRE 1600 within previous two quarters or consent of Department Head. (5-2) 6

***FRE 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. Class meets for oral reports and discussion.
*Prerequisite: FRE 2600 within previous two quarters or consent of Department Head. (3-0) 3

***FRE 2600 Intermediate French I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings.
*Prerequisite: FRE 1601 within two previous quarters, two high school units, or consent of Department Head. (5-2) 6

^***FRE 2601 Intermediate French II:** Upon completion of this course, students will have completed their review of grammar, along with readings in French, with emphasis on people and events that have determined the destiny of France. (FRE 2600 and FRE 2601 combined will satisfy humanities requirement.)
*Prerequisite: FRE 2600 within previous two quarters or consent of Department Head. (5-2) 6

FSO – Foodservice

FSO 3301 Nutrition: This course is designed to provide students with basic facts about foods and nutrition and to aid them in developing the ability to sort out and apply new development in this field to food preparation. Upon completion of this course, students should be able to explain the relationship of food to health and physical fitness; discuss food nutrients and their functions in the body; describe how the body utilizes food; explain the process of getting food from the producers to the consumers; and discuss the essentials of an adequate diet to maintain health. (3-0) 3

FSO 4303 Food Purchasing: Upon completion of this course, students should be able to describe the food purchasing function; define the role of food purchasing in food production; describe the importance of planning and forecasting; demonstrate market techniques; recognize the importance of specifications and quality assurance; describe yield tests and cost analysis used to manage food costs and establish menu prices; explain food distribution systems and market trends; discuss purchasing's relationship to other foodservices activities; know the accounting controls and mechanics; discuss ethics within the food purchasing function; and explain the need for evaluating purchasing performance. (3-0) 3

FSO 3504 Food Preparation I: Students will be introduced to the basic food preparation principles and procedures. They will prepare items in the kitchen; serve in a dining room; and work in the clean-up and stock areas of a restaurant. The class will be a combination of lab time and lecture time. (2-9) 5

***FSO 3505 Food Preparation II:** This course is designed to be a continuation of students' cooking skills and knowledge building on what was learned in FSO 3504. They will rotate through various stations in the dining room and kitchen, preparing and serving food. The lab and lecture will be heightened by a field trip and guest lectures.
*Prerequisite: FSO 3504. (2-9) 5

***FSO 3506 Food Preparation III:** In this course, students will begin to apply the knowledge gained in FSO 3505 to more advanced preparation techniques, the handling of specialty items (veal & lamb), and preparation of full buffets. They will also be introduced to menu development and writing, as well as buffet layout and service. In this course, students should begin to feel the confidence that comes with a growing understanding of food preparation.
*Prerequisite: FSO 3505. (2-9) 5

FSO 4200 Equipment Usage, Layout, and Design: Upon completion of this course, students will be able to identify,

operate, and clean commercial equipment; identify small and large hand tools and equipment; and identify and design basic layout and flow charts for effective kitchen use. (2-0) 2

FSO 4208 Cooperative Education: This course is designed to aid students in applying the skills necessary for success in the foodservice industry by providing actual supervised work experience in the food industry under the guidance of an Executive Chef. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan, including such skills as ability to operate fry, broiler, and saute stations; set up a salad /station; prepare salads; perform bakery shop operations; evaluate their own performance in the field; assess requirements and responsibilities for successful employment, and evaluate their own capacity to comply with such demands. (0-20) 2

FSO 4300 Sanitation: Upon completion of this course, students should be able to understand information and methods conceming sanitation procedures to food handling function from purchasing, storing, to preparing and serving to patrons; and maintain a sanitary operation, such as training workers and dealing with the local health Department. (3-0) 3

FSO 4304 Food and Labor Cost Controls: This course concems food costs and skills necessary for setting food cost objectives. Upon completion of this course, students should be able to define food costs; perform skills necessary for setting food cost objectives; explain the value of establishing standard portions; demonstrate knowledge of purchasing methods; discuss the importance of a weekly inventory; explain the importance of Food Issuing forms; and explain the value of comparative buying. (3-0) 3

FSO 4407 Baking I: Upon completion of this course, students should be able to demonstrate the use of correct measurements and proper use of various baking tools and equipment; understand primary baking ingredients and their properties; prepare base yeast doughs, quick breads, basic pastry doughs, basic fruit and cream fillings, basic cookie doughs; and understand principles of sanitation, safety, and inventory control. (2-6) 4

***FSO 4408 Baking II:** Students will continue to apply the basics leamed in FSO 4407. Upon completion of this course, they should be able to prepare various cakes, basic syrups, creams, icings, and sauces.
*Prerequisite: FSO 4407. (2-6) 4

***FSO 4409 Baking III:** Upon completion of this course, students should be able to prepare danish and puff pastries, specialty rolls, breads, and pastries; prepare more complex sweet doughs, pies and tarts, and specialty cookies; and demonstrate the use of large and small pastry bag.
*Prerequisite: FSO 4408. (2-6) 4

FSO 4414 Garde Manger I: This course is designed as an introduction to cold preparation techniques (i.e. salads, hors d'oeuvres, appetizers). Students will begin to study the basics of garnishing food and the need for creativity. The discussion periods will include films and guest lecturers. (2-6) 4

***FSO 4415 Garde Manger II:** Students will continue to apply the basics leamed in FSO 4414. They will prepare various salads, dressings, aspics, etc. for service in the dining room as well as gaining experience in stockroom, scully, and supervision. An introduction to ice and tallow carving will also be part of this course.
*Prerequisite: FSO 4414. (2-6) 4

***FSO 4416 Garde Manger III:** Upon completion of this course, students should be able to recognize and prepare different types of Chaud Froid sauce; create a classic Chaud Froid showpiece; plan and prepare a buffet with a showpiece; demonstrate skills necessary for creating special garnishes; compose a menu to fit an establishment's specific needs; demonstrate the better techniques used in ice carvings; and display a knowledge of Pates.
*Prerequisite: FSO 4415. (2-6) 4

***FSO 4419 Baking IV:** Upon completion of this course, students should be able to make and work with marzipan; prepare royal buttercream and boiled icings; make and work with pastillage; know and demonstrate use of appropriate decorator tubes; make flowers and borders; make and decorate birthday, wedding, and specialty cakes; and work with chocolate coverture.
*Prerequisite: FSO 4409. (2-6) 4

***FSO 4506 Food Preparation IV:** This course is designed to fine tune students' food preparation skills. They will be involved in the preparation of Game. Introduced to a variety of types of cuisine, students should have a solid knowledge of hot food preparation.
*Prerequisite: FSO 3506. (2-9) 5

GED – General Educational Development. *See page 45.*

GEL – Geology

GEL 1604 Physical Geology: An introductory course with emphasis on geology as an environmental discipline. Upon completion of this course, students should be able to demonstrate knowledge in the following areas: common minerals and rocks, earth processes, development of surface features, and geologic resources. (5-2) 6

GEL 2605 Historical Geology: A course in the sequence of earth's history. Upon completion of this course, students should be able to demonstrate knowledge in these areas: recognition of major fossils and associated rock strata; appreciation of the age of many geological formations, and how historical geology aids in finding natural resources. (5-2) 6

GEN – General Studies

GEN 1140 Field Biology: This course is specifically designed for the general interest student. Upon completion of the course, students should be able to write a description, using field notes, of the major flora and fauna of the specific field location being studied. (6-10) 1

GEN 1141 Introduction to Nature Photography: An introduction to the basic principles of nature photography with emphasis on various types of cameras, lenses, and films,

indicating the limitations of each. Also, an introduction to the techniques of photography from blinds, and tips on how to photograph anything from wild flowers to birds. (6-10) 1

GEN 1144 Ecology by Canoe: A course of general interest designed to meet the needs of the general interest student. The course is made up of 3 all-day (7-1/3 hours) field trips by canoe. Students will learn about the flora and fauna of three different geographical regions and streams of North Carolina: i.e., Coastal Plain, Piedmont, and Mountain. Little or no canoeing experience is necessary—flatwater streams are selected. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1148 Field Identification of Insects: An introduction to insect identification using taxonomic keys down to the major orders of insects. Characteristics of insects will be compared to other arthropods and other animal phyla. Also, the importance of insects to humanity and the environment will be stressed along with control methods. (6-10) 1

GEN 1149 Field Ornithology: An introduction to the identification and study of birds in the field. Upon satisfactory completion of this course, students should be able to identify several kinds of birds on sight and demonstrate knowledge of special adaptations, kinds of food, and life histories of selected species. (6-10) 1

GEN 1201 Career Exploration: This course will help students to discover their own unique gifts and talents related to the area of career planning, to recognize where they are now, to discover where they want to go, to determine how to get there, and to be able to plan for career alternatives. (2-0) 2

GEO – Geography, Physical

GEO 1614 Introduction to Physical Geography: A study of the basic physical elements of geography aimed at understanding the physical environment. Upon completion of this course, students should be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations, basic concepts of cartography, meteorology, hydrology, climatology, and biogeography. (5-2) 6

GER – German

^ Satisfies humanities requirement.

GER 1600 Elementary German I: This course emphasizes basic elements of German in conversation, reading, and writing for beginning students, with laboratory tapes to reinforce classroom instruction. (Does not satisfy humanities requirements.) (5-2) 6

***GER 1601 Elementary German II:** This course is a continuation of GER 1600. Students will learn basic elements of conversation, reading, and writing. (Does not satisfy humanities requirement.)
*Prerequisite: GER 1600 within previous two quarters or Departmental consent. (5-2) 6

***GER 2600 Intermediate German I:** This course provides an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings.
Note: GER 2600 and GER 2601 combined will satisfy humanities requirement.
*Prerequisite: GER 1601 or two high school units within previous two quarters, or consent of Department head. (5-2) 6

***GER 2601 Intermediate German II:** This course is a continuation of GER 2600. Reading of selections from German literature are combined with oral and written work in class.
Note: GER 2600 and GER 2601 combined will satisfy humanities requirement.
*Prerequisite: GER 2600 within two quarters, or consent of Department Head. (5-2) 6

GPY – Geography

GPY 1500 Introduction to World Geography: Upon completion of this course, students should be able to describe the major types of physical environment; explain how the physical environment influences cultural and economic development, trade, and communications patterns; explain how these human activities affect each other and the physical environment; and identify political boundaries and resource concentrations, major terrain features, and other important elements of the human and physical environments. (5-0) 5

Graphic Arts, Printing – See PRN

Health,Physical Education and Recreation – See HPE

HED – Health Education

HED 1111 Special Health Problems: Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (1-0) 1

***HED 1153 CPR Instructor:** Upon completion of this course, students should be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class; demonstrate effective methods and techniques; administer specific tests of basic CPR skills.
*Prerequisite: HED 1203 or equivalent. (1-0) 1

HED 1201 Special Health Problems: Selected health problems are chosen for study in this course. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (2-0) 2

HED 1203 Cardiopulmonary Resuscitation (CPR): Students are instructed in Emergency First Aid and CPR procedures. Upon completion of this course, students should be able to give care to the injured and perform emergency procedures when cardiac arrest occurs. (2-0) 2

HED 1204 Standard First Aid: Upon completion of this course, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. (1-2) 2

HED 1208 Personal Fitness Analysis: Upon completion of this course, students should be able to assess their health and fitness status by the use of laboratory tests such as calculating body fatness, determining aerobic fitness and flexibility. The student's test results are computer analyzed. The student participates in an exercise program to improve fitness level. (1-2) 2

HED 1300 Introduction to Health Education: Upon completion of this course, students should be able to define the basic concepts of health and relate these to everyday life, evaluate health information, and identify current health issues. (3-0) 3

HED 1301 Special Health Problems: Selected health problems are chosen for study in this course. Students are presented a subject area and should be able to identify and describe solutions to these problems. (3-0) 3

HED 1302 Sexual Development of Children: Upon completion of this course, students should be able to describe typical and atypical sexual behaviors of children; discuss helpful adult responses to specific behaviors and questions; identify issues relating to children's sexuality; describe and understand relationships between adult values and behaviors; and promote healthy sexual development in children (3-0) 3

HED 2301 Human Sexuality: Upon completion of this course, students should be able to describe the major life cycles and how sexuality is affected during each cycle; identify community agencies that have a sexuality component; describe contraceptive methods; identify sexually-transmitted diseases. (3-0) 3

High School Diploma – HSD. See page 45.

HIS – History

HIS 1500 World Civilization I: This course involves a study of the development of civilization from the prehistoric period to the Seventeenth Century. Upon completing this course, students should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, and Africa, identifying relationships among past events and relating these to contemporary problems. (5-0) 5

HIS 1501 World Civilization II: This course involves a study of the development of civilization from the Seventeenth Century to the present. Upon completing this course, students should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, Africa, and the Americas, thus giving context for understanding the present world order. (5-0) 5

HIS 1502 American History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from the Colonial Era through Reconstruction. (5-0) 5

HIS 1503 American History II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in American history from the end of Reconstruction to the present. (5-0) 5

HIS 1504 Recent American History: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from 1941 to the present. (5-0) 5

HIS 1505 The Modern World: This course involves a study of outstanding recent developments in the United States and the world and the historical background of these developments. Upon completion of this course, students should be able to explain the interdependence among the world community of nations; examine the contrasting political, social, and economic systems represented in the world community of nations; discuss the impact of technology on people, their institutions, and their values; discuss the conflicting value systems within contemporary American society and within the world community of nations; examine their own value systems; examine recent developments in the United States, and analyze and draw logical inferences from a variety of primary and secondary source material relating to selected contemporary events, issues, and policies. (5-0) 5

HIS 1510 The American Civil War: Upon completion of this course, students should be able to explain why the Civil War was a turning point in this nation's history; describe why the tragic years from 1861 to 1865 form an important episode in America's history ; explain why, before 1860, the Southern economy was bound to the institution of slavery; describe how the divergent economic structures of the North and South would cause conflict; explain the frame of reference of the North and South in terms of ideology. (5-0) 5

HIS 1520 Black History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of African-Americans from their ancient African past (ca. 3000 B.C.) through the American Civil War (1865); analyze and evaluate the philosophies of major African-American leaders from the era of Colonial America to the era of the Civil War. (5-0) 5

HIS 1521 Black History II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of African-Americans from 1865 to the present; analyze and evaluate the philosophies of major African-American leaders during this period. (5-0) 5

***HIS 2104-2504 Special Topics in History:** This designation allows students individually or in groups to investigate

in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course.
*Prerequisite: Consent of instructor and Department Head.
(1 to 5 hrs. class/weekly -1 to 5 hrs. credit)

HIS 2500 North Carolina History: Upon completion of this course, students should be able to examine the major historical, geographical, and governmental developments in North Carolina from the Colonial Era to the present. Through field trips and special projects, they will evaluate the cultural developments and socio-economic contributions of the State. (5-0) 5

HOR – Horticulture Technology

***HOR 3205 Cooperative Work Experience (Co-Op):** Upon completion of this course, students should be able to exhibit a positive attitude toward work in a horticultural business; and apply experience to supplement class and lab learning.
*Prerequisite: Permission of Program Director and Co-Op Office, COE 3100. (0-0-20) 2

HOR 3210 Floral Design: Upon completion of this course, students should be able to demonstrate basic care and handling of cut flowers; choose and utilize basic floral supplies; demonstrate the nine fundamental floral design lines; and demonstrate four basic types of design pieces. (1-2) 2

HOR 3302 Landscape Graphics andnd Measurements: Upon completion of this course, students should be able to execute measurements commonly used in landscaping; read "working" landscape plans and specifications; prepare basic "working" landscape plans and specifications; and reproduce landscape plans. (2-2) 3

***HOR 3304 Computer-Aided Landscape Graphics:** Upon completion of this course, students should be able to demonstrate proficiency in the use of commands and controls of a CAD system; produce a library of landscape symbols; and produce scale landscape drawings to include site layout, plant symbols, and appropriate lettering.
*Prerequisite: HOR 3302 or permission of Program Director. (1-6) 3

HOR 3312 Indoor Plants: Upon completion of this course, students should be able to describe the characteristics to look for in house plants, and plant shops; discuss the importance of selected tools, supplies, and containers for proper house plant care; discuss the effects of selected environmental factors important to house plants; identify selected house plants; and identify and give control measures for selected pest problems of house plants. (2-2) 3

HOR 3400 Landscape Plants I - Woody: Upon completion of this course, students should be able to identify by sight 90 selected plants; list the physical characteristics, cultural requirements, and landscape uses of these plants; and identify any special remarks regarding them. (3-2) 4

HOR 3401 Plant Propagation I: Upon completion of this course, students should be able to perform the following types of asexual propagation: layering, cuttings, grafting, budding, dividing; perform sexual (seed) propagation of ornamental plants; select, use, and maintain equipment and supplies used in plant propagation; and choose the correct propagation method for a variety of ornamental plants. (2-4) 4

HOR 3403 Nursery Technology: Upon completion of this course, students should be able to perform the day-to-day operations used to grow, maintain, and harvest both container and field-grown nursery stock; select, use, and maintain nursery equipment and supplies; discuss the various kinds of nurseries; discuss marketing of nursery products and services; and perform garden center operations. (2-4) 4

HOR 3404 Landscape Plants II: Woody and Herbaceous: Upon completion of this course, students should be able to identify by sight 120 selected plants; list the physical characteristics, cultural requirements, and landscape use of these plants; and identify any special remarks regarding these plants. (3-2) 4

HOR 3405 Grounds Maintenance II: Upon completion of this course, students should be able to explain the purpose of and list sources of the major, minor, and trace nutrient elements; perform simple soil tests for nutrient content and pH; select and apply fertilizers correctly to selected ornamentals; identify and execute preventive and corrective controls of selected insect pests of ornamentals; identify and execute preventive and corrective controls of selected disease pests of ornamentals; and select, use, and maintain equipment, and materials used in the above operations. (2-4) 4

HOR 3408 Introductory Horticulture: Upon completion of this course, students should be able to demonstrate knowledge of the branches of horticulture and their interrelationships; demonstrate basic knowledge in the following areas: landscaping; describe the various registrations and certifications needed in horticulture; and describe various career opportunities in horticulture and horticultural organizations and agencies. (3-2) 4

HOR 3410 Turf Management: Upon completion of this course, students should be able to identify at least seven selected turf grasses; list the cultural requirements of each of the seven selected turf grasses; establish turf grasses by four different methods; maintain turf grass by being able to select and use turf equipment and supplies; and identify and control common turf pests. (2-4) 4

HOR 3460 Organic Methods in Horticulture: Upon completion of this course, students should be able to identify plant nutrient requirements and basic pest problems; use resource materials to recommend corrective organic methods for nutrient deficiency and plant pest problems; and set up and practice organic methods of plant problem remediation and maintenance. (2-4) 4

HOR 3504 Grounds Maintenance I: Upon completion of this course, students should be able to identify problems of and execute preventive and corrective controls of weed problems common to ornamentals; select and apply mulches for usual maintenance situations; identify and execute preventive and corrective controls of water problems in grounds maintenance; prune all plants on a selected list of ornamentals; and select, use, and maintain equipment items used in the above operations. (3-4) 5

***HOR 3505 Landscape Gardening:** Upon completion of this course, students should be able to analyze the landscape potential of a landscape project area; prepare detailed landscape plans, plant lists, and planting specifications; install a planting; and perform basic landscape construction.
*Prerequisite: HOR 3302. (3-4) 5

***HOR 4203 Advanced Floral Design:** Upon completion of this course, students should be able to demonstrate skill in the processing of cut flowers; and demonstrate skills in the following floral design areas: container setup and selection, holiday arrangements, advanced wedding arrangements, advanced funeral pieces, dried flower, silk and twig arrangements, mats, brooms and fruit arrangements, oriental and free form creative design pieces.
*Prerequisite: HOR 3210 or permission of instructor. (1-2) 2

***HOR 4301 Horticulture Management and Sales:** Upon completion of this course, students should be able to discuss effective employee management styles and procedures; outline financial factors to consider as an employee/employer; demonstrate marketing and sales strategies related to selected horticultural industries; and utilize selected computer software appropriate to horticultural businesses.
*Prerequisite: HOR 3403 or HOR 4411. (3-0) 3

HOR 4400 Arboriculture: Upon completion of this course, students should be able to identify growth requirements of selected shade and ornamental trees; select and apply correct tree maintenance procedures to include: fertilizing, pruning, pest prevention and control; and basic safety rules of climbing, felling, and equipment use. (2-4) 4

***HOR 4404 Plant Propagation II:** Upon completion of this course, students should be able to perform advanced asexual propagation techniques including five types of layers, seven types of cuttings, five types of grafts and/or buds and aseptic cultures; perform advanced sexual propagation techniques including selected pollination; scarification, stratification; and complete a detailed propagation project as assigned by the instructor.
*Prerequisite: HOR 3401. (2-4) 4

HOR 4411 Greenhouse Horticulture: Upon completion of this course, students should be able to demonstrate a working knowledge of greenhouse construction, materials, and equipment; discuss the physical and cultural needs of greenhouse plants; and demonstrate a working knowledge of the growing of flower, bedding plant, seasonal pot plant, and foliage plant crops. (2-4) 4

Hospital Ward Secretary – See HRC

Hotel /Restaurant Management – See HRM

HPE – Health, Physical Education and Recreation

Note: Successfully completed HPE courses may not be repeated for a period of three years without Department Head approval.

Self-Supporting Courses: Credit will be given for successful completion of a self-supporting course. However, no additional credit will be given for repeating the same course.

HPE 1100 Individual Activity: Selected physical education topics are chosen for study. Upon completion of this course, students should be able to demonstrate skill in these topic areas. (Self-Supporting) (0-3) 1

HPE 1104 Fencing - Beginning: Upon completion of this course, students should be able to perform elementary foil technique and demonstrate the basics of competitive fencing. (0-3) 1

***HPE 1105 Fencing - Intermediate:** Upon completion of this course, students should be able to perform foil techniques such as the balastra, the fleche, the croise, taking the blade, and competitive fencing.
*Prerequisite: HPE 1104 or equivalent. (0-3) 1

***HPE 1106 Fencing - Advanced:** Upon completion of this course, students should be able to execute elementary sabre techniques such as the on-guard position, the lunge, various parries, and engage in advanced competitive fencing. (Self-Supporting)
*Prerequisite: HPE 1105 or equivalent. (0-3) 1

HPE 1107 Self-Defense and Physical Conditioning - Beginning: This is the first in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate basic self-defense techniques and perform specific physical conditioning exercises. (0-3) 1

***HPE 1108 Self-Defense and Physical Conditioning - Intermediate:** This is the second in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate basic self-defense and intermediate level techniques, and continue specific physical conditioning exercises.
*Prerequisite HPE 1107 or equivalent. (0-3) 1

***HPE 1109 Self-Defense and Physical Conditioning - Advanced:** This is the third in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate advanced techniques of self-defense and a high level of physical conditioning.
*Prerequisite HPE 1108 or equivalent. (0-3) 1

HPE 1112 Water Aerobics: Upon completion of this course, students should be able to demonstrate increased cardiovascular endurance, muscular strength and flexibility, and participate in an individually-paced water exercise program. Students provide their own swimsuits. (0-3) 1

HPE 1113 Volleyball and Badminton: Upon completion of this course, students should be able to identify the skills of badminton and volleyball, demonstrate these skills in play, and list and describe rules and techniques of each game. (0-3) 1

HPE 1114 Snow Skiing - Beginning: Upon completion of this course, students should be able to do parallel turns, christies, basic jump and introductory wedelin; identify fundamentals of skiing, safety, and etiquette. Extra fees are charged for this class and are set yearly. (0-3) 1

***HPE 1115 Snow Skiing - Intermediate:** Upon completion of this course, students should progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting, and engage in an intermediate exercise program in order to handle advanced terrain. Extra fees are charged for this class and are set yearly.
*Prerequisite: HPE 1114 or equivalent. (0-3) 1

***HPE 1116 Snow Skiing - Advanced:** Upon completion of this course, students should be able to perform slalom and giant slalom techniques, elementary downhill techniques, trick skiing and jumping, pole plant, moguls and be able to ski various types of terrain. Extra fees are charged for this class and are set yearly.
*Prerequisite: HPE 1115 or equivalent. (0-3) 1

HPE 1123 Physical Fitness - Beginning: Upon completion of this course, students should be able to identify three aspects of physical fitness, strength, cardiovascular endurance and flexibility; identify personal fitness needs and goals; design a personal fitness program. (0-3) 1

***HPE 1124 Physical Fitness - Intermediate:** Upon completion of this course, students should be able to perform specific exercises contributing to physical fitness; explain the role exercise plays in the body systems; continue development of a personal fitness program.
*Prerequisite: HPE 1123 or equivalent. (0-3) 1

***HPE 1125 Physical Fitness - Advanced:** Upon completion of this course, students should be able to identify and test themselves for cardiovascular improvement and plan an individualized program of exercise for immediate and future needs.
*Prerequisite: HPE 1124 or equivalent. (0-3) 1

HPE 1126 Social Dance - Beginning: Upon completion of this course, students should be able to demonstrate specific dance skills and perform the following dances: Fox Trot, Waltz, Lindy, Cha-Cha, Rumba, and Shag. (Self-Supporting) (0-3) 1

***HPE 1127 Social Dance - Advanced Beginner:** Upon completion of this course, students should be able to perform more difficult steps and types of dance, including the Tango, Samba, Waltz, and Shag. (Self-Supporting)
*Prerequisite HPE 1126 or equivalent. (0-3) 1

***HPE 1128 Social Dance - Intermediate:** Upon completion of this course, students should be able to add more difficult steps to dances learned in HPE 1127. They will also learn to perform basic steps in the Charleston. (Self-Supporting)
*Prerequisite: HPE 1127 or equivalent. (0-3) 1

HPE 1130 American & English Country Dancing: Upon completion of this course, students should be able to dance the basic formations, steps, and figures of American & English Country Dancing; participate in life-long recreational activity of country dancing. Dancers walk, skip or waltz in circle, square or contra dance formations. (Self-Supporting) (0-3) 1

HPE 1132 Weight Training I: Upon completion of this course, students should increase their total body strength by at least 20%; be able to demonstrate and explain the differences between various strength training programs, including circuit training, pyramids, endurance training, and power training; establish a personal strength training program. (0-3) 1

HPE 1140 Self-Protection for Women: Upon completion of this course, students should be able to identify the principles of personal self-defense; recognize and use alternatives for self-protection in an attack situation; recognize and avoid danger in the car, office, home, or other setting; demonstrate actual defense techniques. (0-3) 1

***HPE 1145 Golf - Intermediate:** Upon completion of this course, students should be able to demonstrate a fundamental golf swing; identify safety rules and etiquette on a golf course; detect patterns of strengths and weaknesses of shots. Extra fees (green fees and balls) are charged. Students provide their own clubs.
*Prerequisite: HPE 1191 or equivalent. (0-3) 1

HPE 1147 Tennis - Beginning: Upon completion of this course, students should be able to demonstrate elementary skills for ground strokes, serve, volley, smash, and lob; identify rules and strategy for singles and doubles. Students will provide racket and balls. (0-3) 1

***HPE 1148 Tennis - Intermediate:** Upon completion of this course, students should be able to demonstrate intermediate playing skills, perform specific shots, and game strategies. Students will provide racket and balls.
*Prerequisite HPE 1147 or equivalent. (0-3) 1

***HPE 1149 Tennis - Advanced:** Upon completion of this course, students should be able to perform advanced shots, spins, pace, and strategies. Students will provide racket and balls. (Self-Supporting)
*Prerequisite:HPE 1148 or equivalent. (0-3) 1

HPE 1150 Exercise for Handicapped: Upon completion of this course, students should be able to increase their level of fitness and demonstrate specific exercises relating to individual needs. (0-3) 1

***HPE 1153 Weight Training II:** Upon completion of this course, students should demonstrate an intermediate level of participation in strength training programs, such as circuit training, endurance and power training, and DeLorme training; and develop a personal strength training program.
*Prerequisite HPE 1132 or equivalent. (0-3) 1

HPE 1164 Yoga - Beginning: Upon completion of this course, students should be able to demonstrate the basic principles of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration. (0-3) 1

***HPE 1165 Yoga - Intermediate:** Upon completion of this course, students should be able to demonstrate more detail in physical postures, breathing, relaxation and mental concentration. (Self-Supporting)
*Prerequisite: HPE 1164 or equivalent. (0-3) 1

***HPE 1166 Yoga - Advanced:** Upon completion of this course, students should be able to demonstrate advanced types of breathing and concentration using sounds, and demonstrate difficult physical postures. (Self-Supporting)
*Prerequisite: HPE 1165 or equivalent. (0-3) 1

HPE 1170 Aerobics: Upon completion of this course, students should be able to define aerobic exercise and identify basic components of a program; participate in activities leading to improved cardiovascular efficiency; identify risk factors associated with cardiovascular disease, and implement a personal aerobics exercise program. (0-3) 1

HPE 1174 Rock Climbing: Upon completion of this course, students should be able to demonstrate proper techniques of rock climbing, bouldering, rappelling; and demonstrate the correct method of belaying for climbing and rappelling. (0-3) 1

HPE 1175 Techniques of Lead Climbing: Upon completion of this course, students should be able to demonstrate strong and skillful techniques in top-rope climbs and rappels of advanced difficulty; demonstrate secure placement of pieces of protection; explain and demonstrate all safety practices for advanced top-rope rock climbing. (Self-Supporting) (0-3) 1

HPE 1176 Introduction to Backpacking: Upon completion of this course, students should be able to identify the differences between high- and poor-quality backpacking equipment; identify proper conservation and ecological practices while in the woods; plan meals for an overnight backpacking trip; demonstrate proper use of maps and compass. (0-3) 1

HPE 1177 Wilderness Skills: Upon completion of this course, students should be able to navigate in the woods using map, compass, and permanent landmarks; plan and conduct a backpacking trip; demonstrate survival procedures. (Self-Supporting) (0-3) 1

HPE 1180 Orienteering: Upon completion of this course, students should be able to define various types of orienteering; recognize and draw at least 15 topographic map symbols; and negotiate a cross-country orienteering course 3-5 km long in a specified time period. (0-3) 1

HPE 1182 Cross Country Skiing: Upon completion of this course, students should be able to demonstrate the following skills: diagonal stride, herringbone, snowplow, double pole single kick, and turning. Extra fees are charged for equipment rental. (0-3) 1

HPE 1184 Swimming - Beginner: Upon completion of this course, students should be able to demonstrate treading water, back float, crawl stroke 20 yards, and safety skills. Students provide their own swimsuits. (0-3) 1

***HPE 1185 Swimming - Advanced Beginner:** Upon completion of this course, students should be able to demonstrate survival floating, elementary backstroke, and crawl stroke. Students provide their own swimsuits.
*Prerequisite: HPE 1184 or equivalent. (0-3) 1

***HPE 1186 Swimming - Intermediate:** Upon completion of this course, students should be able to demonstrate four basic strokes: breast stroke, side stroke, crawl stroke, and back crawl; demonstrate scissors kick, and breast stroke kick. Students provide their own swimsuits.
*Prerequisite HPE 1185 or equivalent. (0-3) 1

***HPE 1187 Swimming - Swimmer:** Upon completion of this course, students should be able to swim the breast stroke - 100 yards; side stroke - 100 yards; crawl stroke - 100 yards; back crawl - 100 yards; and swim 10 minutes. Students provide their own swimsuits.
*Prerequisite: HPE 1186 or equivalent. (0-3) 1

HPE 1190 Introduction to Golf I: Upon completion of this course, students should be able to demonstrate the grip, stance, body posture; use of the putter, 9 and 7 irons. Extra fees are charged (green fees and balls). Students provide their own clubs. (0-3) 1

***HPE 1191 Introduction to Golf II:** Upon completion of this course, students should be able to demonstrate the use of the mid and long irons and woods; be able to identify game rules and etiquette, and put skills to use on a Par 3 course. Extra fees are charged (green fees and balls). Students provide their own clubs.
*Prerequisite HPE 1190 or equivalent. (0-3) 1

***HPE 1192 Aerobics - Advanced:** Upon completion of this course, students should be able to demonstrate advanced levels of aerobic activities; show improvement in cardiovascular efficiency; develop and maintain an aerobic plan for personal use.
*Prerequisite: HPE 1170 or equivalent. (0-3) 1

HPE 1193 Slimnastics - Beginning: Upon completion of this course, students should be able to identify and demonstrate basic components of exercise and personal exercise needs, precautions, and benefits of an exercise program. (0-3) 1

***HPE 1194 Slimnastics - Intermediate:** Upon completion of this course, students should be able to demonstrate measured change in endurance, flexibility, and strength; design a personal exercise program.
*Prerequisite HPE 1193 or equivalent. (0-3) 1

***HPE 1195 Slimnastics - Advanced:** Upon completion of this course, students should be able to identify and perform specific exercises; recognize motivating factors in beginning and maintaining an exercise program; demonstrate continued advancement in exercises.
*Prerequisite: HPE 1194 or equivalent. (0-3) 1

HPE 1196 Gymnastics - Beginning: Upon completion of this course, students should be able to discuss gymnastic safety procedures; demonstrate a stretching and warm-up session for gymnastic apparatus; demonstrate basic moves in floor exercise, trampoline, unevens, parallel bars, beam, and rings. (0-3) 1

***HPE 1197 Gymnastics - Intermediate:** Upon completion of this course, students should be able to discuss and demonstrate spotting techniques for beginning and intermediate skills on all pieces of equipment; demonstrate a beginning to intermediate-level routine on selected pieces of apparatus.
*Prerequisite: HPE 1196 or equivalent. (0-3) 1

HPE 1198 Bowling - Beginning: Upon completion of this course, students should be able to identify skills, rules, and demonstrate strategy. Extra fees charged. (0-3) 1

HPE 1200 Creative Arts in Recreation: Upon completion of this course, students should be able to design and make basic arts and crafts for use with different ages in recreational settings; plan various music and dance programs in recreation. (1-3) 2

***HPE 1203 Water Safety Instructor:** Upon completion of this course, students should be able to demonstrate beginner skills, swimming strokes, and lifesaving skills.
*Prerequisite: HPE 1186 or equivalent. (1-3) 2

***HPE 1215 Lifeguard Training:** Upon completion of this course, students should be able to identify hazards associated with aquatic facilities; recognize a person in a distress situation and effectively rescue them; operate a pool filter system, and direct a waterfront.
*Prerequisite: First Aid and CPR; HPE 1186 or equivalent. (1-3) 2

HPE 1404 Introduction to Recreation: Upon completion of this course, students should be able to identify the historical foundations of recreation and leisure; list the definitions and current trends in recreation; explain the role of government in establishing recreation and leisure services at different levels; identify prospective careers in recreation. (3-3) 4

HPE 1405 Team Sports and Games in Recreation: Upon completion of this course, students should be able to demonstrate a knowledge of recreation activities suited to the needs, interests, and skills of various age groups with emphasis on games, stunts, relays, and rhythmic activities; implement these activities for playgrounds, schools, and recreational areas. (3-3) 4

HPE 2100 Bicycling: Upon completion of this course, students should be able to select a bicycle suitable to their size and needs; repair and maintain a bicycle; state the legal rights of a bicyclist; maneuver a bicycle safely around obstacles; ride a bicycle safely in traffic; know what equipment is necessary for a safe bicycle tour. Student must have a ten-speed bicycle. (0-3) 1

***HPE 2112 Canoeing - Basic:** Upon completion of this course, students should be able to demonstrate safe-handling skills, self-rescue skills, and ways to apply these skills; name the parts of a canoe and be able to perform the following strokes: bow, sculling, reverse sculling, sweep, reverse sweep, and J. Extra fee charged for canoe rental.
*Prerequisite: HPE 1184 or equivalent. (0-3) 1

***HPE 2113 Canoeing - Rivers:** Upon completion of this course, students should be able to define rocher, beam and displacement; demonstrate self rescue; discuss safety considerations for canoeing; define and demonstrate eddy turn, peel out and feel in moving current; identify six river obstacles. Extra fee charged for canoe rental.
*Prerequisite: HPE 2112 or equivalent. (0-3) 1

***HPE 2114 Canoeing - Basic White Water:** Upon completion of this course, students should be able to demonstrate skills in maneuvering around objects, backferrying, eddy turns, peel outs and self-rescue techniques in Class II and III rapids while paddling both tandem and solo; distinguish between the classes of whitewater, and discuss how to scout a rapid. Extra fee charged for canoe rental.
*Prerequisite: HPE 2112 or equivalent. (0-3) 1

***HPE 2115 Introduction to Kayaking:** Upon completion of this course, students should be able to demonstrate various skills such as forward and reverse stroke, forward and reverse sweep and Eskimo roll; perform self rescue and demonstrate safe practices in a kayak. Extra fee charged for rental of kayak.
*Prerequisite: Swimming proficiency. (0-3) 1

***HPE 2116 Whitewater Kayaking:** Upon completion of this course, students should be able to execute a river roll, skillfully and safely negotiate all Class II and some Class III rapids; be able to rescue a kayak and kayaker, and self rescue in Class II rapids. Extra fee charged for rental of kayak.
*Prerequisite: HPE 2115 or equivalent. (0-3) 1

HPE 2200 Sports Officiating: Upon completion of this course, students should be able to identify responsibilities of officiating; identify rules of the game; demonstrate good mechanics of officiating; demonstrate alertness, good judgment, and decisiveness in calls; demonstrate poise; demonstrate consistency, and good reaction time in calls. (1-3) 2

HPE 2314 Lifetime Activities: Upon completion of this course, students should be able to list rules of specific individual activities such as archery, golf and tennis, and demonstrate all skills involved in the activities; set up and organize a program in the community involving individual activities; demonstrate techniques of teaching skills to others; evaluate effectiveness of the program organized. (2-3) 3

HPE 2325 Introduction to Outdoor Recreation: Upon completion of this course, students should be able to detail the handling of an emergency situation in the wilderness (first aid and environmental); discuss staffing an outdoor program; plan an outdoor trip, and establish a risk management plan. (2-3) 3

HPE 2434 Recreation and Special Populations: Upon completion of this course, students should be able to identify recreation services available to special populations; list principles of recreation programming; design a plan for selected groups. (3-3) 4

HRC – Hospital Ward Secretary

HRC 5300 Orientation to Health Record Clerk: Upon completion of this course, students should be able to describe the structure and functions of the different types of medical facilities; discuss the job description of personnel who work

with the health record; identify the qualifications required of a health record clerk; and demonstrate good interpersonal relationships in given situations. (2-2-0) 3

***HRC 5301 Receptionist Skills:** Upon completion of this course, students should be able to perform the receptionist duties and assume the responsibilities of this position in a medical facility; explain various types of medical insurance and complete insurance claim forms correctly for each.
*Prerequisite: HRC 5300. (2-2-0) 3

HRC 5302 Professional Interactions and the Health Worker: Upon completion of this course, students should be able to discuss skills needed to establish rapport between health worker and patient as well as co-worker; list the effects that behavior of the health worker may have on the well-being of the patient; and discuss the goal of the health care institution with relationship to the community, the health professional, and the patient. (3-0-0) 3

***HRC 5401 Unit Clerk Procedures:** Upon completion of this course, students should be able to perform the clerical tasks that are routinely done on the nursing unit of a medical facility.
*Prerequisites: HRC 5300, MED 3304. (2-4-0) 4

HRM – Hotel/Restaurant Management

HRM 3104 Speaker Seminar I: Upon completion of this course, as a result of field trips, guest speakers and lecturers, students should be able to perform with greater competence the particular work-related skills involved in the specific jobs observed; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as a full-time employee. (1-0) 1

HRM 3300 Introduction to Hotel/Restaurant Management: Upon completion of this course, students should be able to compare the present-day operations of inns and restaurants to those of the past; define the different types of restaurant and food services; identify the positions within hotels and restaurants; compare the Departments within a hotel and restaurant; distinguish between franchise and individually-owned properties; and assess future opportunity in a challenging and rewarding career with the hospitality industry. (3-0) 3

HRM 3301 Legal Aspects of Hospitality: Upon completion of this course, students should be able to assemble and organize a system to prevent lawsuits and losses costly to today's inns; relate local, state, and federal regulations to operations of a modern inn; and describe different instruments of finance that are used in the operation of a modern inn. (3-0) 3

***HRM 4200 Topics in Hotel/Restaurant Management:** Students will conduct career-related projects as described in the training plan. The training plan, designed to meet needs not met by other offerings, will be developed by the Program Director and an appropriate training sponsor in the business community. Each student will work under the direct supervision of the Program Director.
*Prerequisite: Approval of the sponsor and Department Head is required. (TBA)

HRM 4300 Hotel/Restaurant Marketing: Upon completion of this course, students should be able to organize a marketing schedule for future use; assemble positive sales ideas; prepare property and market analyses; prepare a sales forecast; and develop a sales promotion for a particular property. (3-0) 3

HRM 4301 Housekeeping Procedures: Upon completion of this course, students should be able to demonstrate the ability to plan an organized area for the housekeeping Department; implement a time study and procedures standard for cleaning a motel room; identify hazards in a motel; develop standards and procedures for purchasing and inventory controls; and implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

***HRM 4302 Hotel/Restaurant Management-Related Problems:** Upon completion of this course, students should be able to compare circumstances of hotel/restaurant operations to everyday work situations; institute a workable plan to control and maintain good employee morale; and write and identify standards of dress and conduct. Through role playing and analysis, students will become familiar with actual situations that will be encountered in future employment.
*Prerequisites: HRM 3300, HRM 3301, HRM 4301, HRM 4300. (3-0) 3

***HRM 4400 Restaurant Service Management:** Upon completion of this course, students should be able to identify the different stations and responsibilities of good service; identify and purchase proper equipment in dining room set-up; demonstrate practical sanitation and safety procedures; demonstrate to others the proper methods of being a waiter/waitress; and set-up guidelines for future management of dining rooms.
*Prerequisite: TAT 3200. (2-6) 4

HSA – Human Services

***HSA 3340 Client Group Dynamics:** Upon completion of this course, students should be able to demonstrate their own style of group leadership in working with client groups; identify various behavioral roles of clients within groups; demonstrate methods of motivating clients and resolving conflicts within client group interactions.
*Prerequisite: HSA 3501, HSA 3502, or consent of Program Director. (3-0-0) 3

***HSA 3341 Interpersonal Relationships II:** Upon completion of this course, students should be able to distinguish among assertive, passive, and aggressive behaviors; develop their own assertive skills and demonstrate the use of these skills in professional and personal behavior.
*Prerequisite: HSA 3501, HSA 3502, or consent of Program Director. (3-0-0) 3

HSA 3501 Introduction to HSA: Upon completion of this course, students should be able to describe the Human Services programs; give the four core courses, describe their

content and explain the rationale for inclusion as core courses; given a program area, name at least three agencies related to it and describe the type of clients referred to these agencies; describe correctly the procedure for being advised and contracting for field placement; identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: Mental Health, Emotionally Disturbed, Alcoholism, Drug Abuse, Sexuality, Mental Retardation and Brain Damage, Epilepsy, Learning Disabilities, Visual Impairment, Hearing and Speech Impairment, Physical Disabilities, Aging; identify specific agencies which offer services to the above client groups. (5-0-0) 5

***HSA 3502 Interpersonal Relationships I:** Upon completion of this course, students should be able to demonstrate five skills of non-verbal communications; demonstrate five skills of verbal communications; identify and list at least three personal strengths and three weaknesses in relationships with others; identify five personal values; identify four personal behavioral goals; demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors; list and describe Maslow's Hierarchy of Needs; list Erikson's eight Stages of Development; list and describe Powell's five levels of Communication; identify and describe five games people play and the defense mechanism involved in each.
*Prerequisite: HSA 3501 or consent of Program Director. (5-0-0) 5

HSA 5200 Human Relations: Upon completion of this course, students should be able to demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves, and five or more ways in which they have changed; identify at least five of the things in life they value; demonstrate skills for effective communication with others, such as listening, empathy; list ten defense mechanisms and discuss the ones each student uses; list five or more goals and decisions they have made during the course; discuss at least five ways to put into practice on a future job some of the human relations skills learned during the course. (2-0-0) 2

HSD – Adult High School. See page 45.

HSE – Occupational Health, Safety And Environmental Technology

HSE 3301 Safety Engineering: Upon completion of this course, students should demonstrate an understanding of the role(s) of the safety engineer; understand accomplishments of engineers; understand the relationship between safety engineering and accidents; perform preliminary hazards analysis, failure mode and effects analysis, and fault tree analysis; understand production and processing losses, and review technical societies relative to the engineering field. (3-0-3) 3

HSE 3311 Practical Electrical Safety: Upon completion of this course, students should demonstrate an understanding of the perception of electrical shock; effects of high current in the body; burns from electrical shock and rescue of shock victims. They should also demonstrate an ability to control electrical hazards in the workplace, home, and construction-related areas. Case histories and electrical worker surveys will be reviewed and discussed. (3-0-3) 3

HSE 3401 Occupational Safety: Upon completion of this course, students should be able to understand the role(s) of the safety practitioner regarding safety resources and objectives; understand the safety function relative to worker's compensation, record keeping and training; and understand correct materials handling procedures for hazardous materials. (4-0-4) 4

***HSE 4290 Cooperative Work Experience I:** This internship is designed for students in the Occupational Health, Safety and Environmental Technology Program to give them necessary experience in the challenging fields of Health, Safety or Environmental Affairs. This internship is one quarter in duration and should be completed during the last year of study. Approval of the Program Director is required and application must be made prior to registration.
*Prerequisite: Application and approval of the Cooperative Education Office. (2-0-2) 2

***HSE 4291 Cooperative Work Experience II:** This course is a continuation of Cooperative Education I. This program should be completed during the last year.
*Prerequisite: HSE 4290 and approval of the Cooperative Education Office. (2-0-2) 2

HSE 4300 Ergonomics: Upon completion of this course, students should be able to understand the application of ergonomics in industry; plan the industrial ergonomic effort; and implement the industrial ergonomics effort by obtaining management support, creating interest in the program and evaluating the program components. (3-0-3) 3

HSE 4401 Environmental Regulations: Upon completion of this course, students should be able to identify specific environmental regulations relative to general industry. This course will provide a comprehensive review, an interpretation and applicability study of existing environmental regulations. Students will design an environmental compliance questionnaire in conjunction with current EPA standards. (4-0-4) 4

HSE 4500 Environmental Liability: Upon completion of this course, students should understand the types of liability associated with federal and state environmental acts. Joint, several, strict, criminal, and civil liability will be introduced in addition to a review of case studies involving environmental suits and potentially responsible parties. (5-0-5) 5

HSE 4503 Environmental Management and Control: Upon completion of this course, students should be able to identify waste generator status as either small or large. They should be able to develop spill prevention control plans, become familiar with waste exchange programs, develop contingency plans, and demonstrate an understanding that changing processes can/will be used to minimize waste generation. (5-0-5) 5

***HSE 4504 Basic Industrial Hygiene:** Upon completion of this course, students should have a clear understanding of the history and development of the industrial hygiene movement. They will be able to identify the role of the industrial hygienist relative to the employee's needs, in addition to

working with the occupational physician. Federal agencies such as NIOSH and OSHA will be introduced and reviewed with all students. Introduction to harmful agents, routes of entry, skin disease, types of airborne contaminates, and threshold limit values will be reviewed and discussed.
*Prerequisite: Chemistry 1504. (4-2-5) 5

***HSE 4514 Industrial Hygiene Management:** Upon completion of this course, students should be able to design, implement, evaluate, and manage an industrial hygiene program. Each student will be responsible for developing an occupational health program which deals with a recognized health hazard within general industry. All programs are designed to recognize specific occupational health hazards relative to industry with emphasis being placed on the evaluation and control of such existing hazards.
*Prerequisite: HSE 4504. (5-0-5) 5

***HSE 4515 Industrial Hygiene/Sampling Techniques:** Upon completion of this course, students should be able to calibrate sampling equipment correctly, monitor for airborne contaminates, and establish interim and final abatement steps for corrective action. They will receive instruction in the calibration and operation of air sampling equipment, noise level meters, dosimeters and other sampling instruments. Existing NIOSH sampling techniques will be used in the performance of sampling.
*Prerequisite: CHM 1505, HSE 4504, HSE 4514. (4-2-5) 5

HUM – Humanities

Also see courses under Art (ART), Drama (DRA), and Music (MUS)

HUM 1300 The Ascent of Man: This course is based on the Bronowski film series and taught by a team of instructors representing several disciplines. Upon completion of the course, students should be able to identify important scientific thinkers and their discoveries; be familiar with the influence of scientific discoveries on humanistic thinking; have an understanding of science as an important factor in human social and cultural evolution. (3-0) 3

HUM 1301 Writers, Revolutionaries, and Big Brothers: Upon completion of this course, students should have read selected novels and essays about radical attempts in the 20th Century to change the social order while resisting totalitarianism. They should also be able to state the consequences of the revolutionary upheavals between the two World Wars as seen through the fiction and non-fiction of Orwell, Koestler, and Malraux. (3-0) 3

HUM 1319 Mythology: This course is a study of myths and legends, chiefly Greek and Roman. Upon completion of this course, students should be familiar with the myths; be able to assess the influence of myths on art, custom, and tradition; recognize the impact of myths on contemporary thought. (3-0) 3

HUM 1329 Russian Literature and Culture: Upon completion of this course, students should be able to demonstrate a general knowledge of Russian culture as revealed in selected readings, lectures, and audiovisual presentations. They should be able to demonstrate an awareness of geographical, historical, and political factors affecting life and the arts in Russia. (3-0) 3

HUM 1500 Humanities—Classical to Medieval: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence, and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities from classical to medieval times, and assess the validity which the contributions of the past have for the present; be able to identify the major writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with their respective contributions to civilization. (5-0) 5

HUM 1501 Humanities—Renaissance to Present: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence, and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities, and assess the validity which the contributions of the past have for the present; be able to identify the important writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with the major contributions to civilization. (5-0) 5

***HUM 2320 Special Topics:** An advanced course in which students and an instructor select a topic for in-depth study.
*Prerequisite: Approval of the sponsoring instructor and the Department Head. (3-0) 3

Human Services – See HSA

INS – Insurance

INS 3340 Principles of Risk and Insurance: Upon completion of this course, students should be able to describe the basic concepts of risk, including its relationship to probability theory and the law of large numbers; discuss the relationship between risk and insurance; list and discuss the principles of risk management and the role of the risk manager; describe the nature and function of risk management process and the risk handling methods; discuss the principles of insurance contracts; and write a basic risk management proposal. (1-4-0) 3

INS 3341 Personal Property and Casualty Insurance: Upon completion of this course, students should be able to describe the legal basis of insurance and discuss the following terms: insurable interest, indemnity, material fact, warranty and concealment; explain the coverages available in Personal Auto Policies and Personal Umbrella Policies; and explain and compare the various Dwelling and Homeowner policies. (2-2-0) 3

***INS 4200 NASD Series 22 Review:** Upon completion of this course, students should be able to describe the life cycle of a Tax Advantage Investment; evaluate Tax Advantage Investments, such as Real Estate, Oil and Gas, Equipment Leasing, Agriculture, Coal, Exotics, Taxation; determine client fit; explain the applicatory Federal Securities

Regulations, including Securities Act of 1933 and Securities Exchange Act of 1934; and pass Series 22 Exam on Direct Participation Programs.
*Students should register for the Series 22 Exam before taking this course. (2-0) 3

INS 4201 Part 1—Principles of Life and Health Insurance: LOMA Part 1 is designed to acquaint students with the basic features of life and health insurance and annuity products. Upon completion of this course, students should be able to list the elements of an insurable risk; define the basic life, health, and annuity products; explain premium calculations and reserves; describe the major clauses in a life policy; and pass the FLMI Part 1 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins. (2-0) 2

***INS 4202 Part 2—Life and Health Company Operations:** LOMA Part 2 focuses on the business organization of the insurance industry. Upon completion of this course, students should be able to differentiate between stock and mutual insurers, fraternal societies, savings banks and governmental plans; explain the following functions of a company: actuarial, marketing, underwriting, policy owner service, legal investment and accounting; and pass the FLMI Part 2 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite or corequisite: INS 4201. (2-0) 2

***INS 4203 Part 3—Legal Aspects of Life and Health Insurance:** The basic features of the legal environment which affect a life and health insurance company's products and operations are presented in LOMA Part 3. Upon completion of this course, students should be able to distinguish between constitutions, case law and statutes; recognize valid, void, and voidable contracts; discuss the basic principles of agency law; describe the formation of a life contract; describe actions and defenses of contesting the contract; explain the legal effect of policy loans; describe the law of wills, interpleader, rescission and reformation; and pass the FLMI Part 3 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202. (2-0) 2

***INS 4208 Part 8li—Life Insurance Investments:** The purpose of this LOMA preparatory course is to familiarize students with the types of investment media used by insurance companies and with the policies and practices of investment management in varying economic environments. Upon completion of this course, students should be able to describe a financial analysis, investment policies of a life insurer, kinds of mortgages, alternatives to mortgages; define real estate appraisal methods; explain managing investment techniques, the legal aspects of mortgages and how mortgages are administered; and pass the FLMI 9li Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202. (2-0) 2

***INS 4210 Part 10gi—Group Insurance:** This LOMA preparatory course examines the development, technical aspects, and administration of group life and health insurance coverages. Upon completion of this course, students should be able to describe the background, characteristics, forms, ratings, underwriting, and administration of group life and health plans; list other forms of group insurance including government insurance programs; and pass the FLMI Part 9gi Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202. (2-0) 2

***INS 4211 Part 10cl—Life and Health Insurance Claims:** The purpose of this preparatory course is to familiarize students with the medical, legal, and organizational aspects of claim administration. Upon completion of this course, students should be able to use basic medical terminology properly; describe the claim administration process and how it is managed; list general claim considerations of all types of life and health policies; explain how life insurance proceeds are distributed; and pass the FLMI Part 9cl Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202. (2-0) 2

***INS 4280 NASD Series 6 and 63 Review:** This course is designed as a review for persons taking the NASD Series 6 and 63 Exams. Upon completion, students should be able to explain the laws applicable to variable annuities, mutual funds, and Blue Sky transactions; and pass both national exams.
*It is suggested that students register for Series 6 and 63 Exams before taking this course. (2-0) 2

***INS 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: Completion of 45 hours including INS 4294, INS 4395, INS 4396, INS 4297, COE 3100. (0-0-20) 2

***INS 4285 Cooperative Work Experience II:** A continuation of INS 4284. Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: INS 4284. (0-0-20) 2

INS 4294 General Insurance Part I—Introduction: This is the first course in a series which, when completed, qualifies students to take the licensing exam given by the Department of Insurance for insurance agents. Upon completion, students should be able to identify the types of risk and

how to apply the risk management concepts to functions of insurance companies; and interpret the various laws and regulations affecting the insurance industry. (2-0) 2

***INS 4297 General Insurance Part IV—Adjusters:** Upon completion of this course, students should be able to describe the legal basis of contracts and claims; discuss the elements and purpose of negligence, principle of single recovery, res gestae, family purpose doctrine and the presumptions of res ipsa loquitur and respondent superior; list and discuss the principles of torts; describe and discuss the art of investigation and interviews; list the principles and describe the nature and function of negotiations, arbitration, settlement, and lawsuits; list and discuss various medical reference sources, medical terminology, and diagnostic procedures. When completed with INS 4294 and INS 4396, students should be able to pass the Adjusters Exam administered by the North Carolina Department of Insurance.
*Prerequisite: INS 4396. (2-0) 2

***INS 4298 General Insurance Part V—Medicare Supplement/Long Term Care:** A continuation of INS 4395 for students who wish to add the marketing of these specialized products to their Life, Accident and Health, or Accident and Health license. Upon completion of this course, students should be able to explain Medicare A and B and Medicaid to a client; aid the client in selecting the Medicare Supplement and Long Term Care products necessary to supplement Medicare A and B; apply North Carolina and Federal laws to the agent client relationship; and complete the Medicare Supplement/Long Term Care Licensing Exam.
*Prerequisites: INS 4395 or Life, Accident and Health or Accident and Health agents license. (2-0) 2

INS 4315 Personal Risk Management and Insurance (HS 315): This course is designed particularly for multi-line agents and is an elective in both CLU and ChFC. Upon completion of this course, students should be able to identify and describe personal loss exposures; explain all parts of the various homeowners and auto insurance forms; explain other property and liability forms; list and explain social insurance programs, individual health insurance, and group health insurance; pass the HS 315 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4317 Multiline Insurance Law and Operations: This course is designed particularly for multi-line agents. Upon completion of this course, students should be able to recognize and discuss laws of insurance, contracts, and torts; underwriting personal property and liability insurance, pricing personal property and liability insurance, personal insurance claims, and handling practices. (3-0) 3

INS 4320 Fundamentals of Financial Planning (HS 320): This introductory course, required in both CLU and ChFC, sets the stage for programs by providing an overview of the environment in which financial services professionals assist clients in meeting their financial counseling and planning needs. Upon completion of this course, students should be able to use effective communication skills in gathering client information and meeting client needs through financial planning; explain to a client the time value of money and use the formulas in actual planning cases; describe and use income and estate tax planning; explain to a client the risk management process and how insurance planning, investment planning, and retirement planning affect it; use computerized financial planning; and explain the regulatory and ethical environment of financial planning. Successful students should be able to complete the HS 320 Exam. Students must register with the American College to sit for the national exam. Students should order their books before the first class. (3-0) 3

INS 4321 Income Taxation (HS 321): This preparatory course, which is required in both CLU and ChFC, provides an overview of the federal income tax system with particular reference to the taxation of life insurance and annuities. Upon completion of this course, students should be able to recognize and describe basic income tax concepts; calculate gross income, deductions for business and production of income expenses, losses, bad debts, other deductions and tax credits, cost recovery, and sales and exchanges; describe capital gains and losses, alternative minimum tax, taxation of life insurance, taxation of corporations and their shareholders, taxation of partnerships and partners; and complete the HS 321 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4322 Financial System in the Economy (HS 322): This preparatory course, which is an elective in both CLU and ChFC, is designed to explain the basic economic principles and institutions, an understanding of which is necessary for an appreciation of alternative explanations of and alternative solutions for the more common economic problems found in private and government sectors. Upon completion of this course, students should be able to recognize and explain the role of the financial system; describe assets, money, and financial transactions; compare insurance companies, pension funds, and other financial institutions; discuss commercial banks and creation of money, and non-bank thrift institutions; describe interest rates in the financial system, money markets, consumer lending and borrowing; explain the businesses in the financial markets, central banking, the Federal Reserve and their effect on monetary policy and National Economic goals; describe the Treasury's activity in financial markets, as well as state and local government; and complete the HS 322 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4323 Individual Life and Health Insurance (HS 323): This is the first course in the CLU and ChFC programs providing coverage of products, tools, and techniques and is required in both CLU and ChFC. Upon completion of this course, students should be able to describe various types of insurance companies and the marketing systems used by each; explain to a consumer Term Life, Endowment, Whole Life, and Flexible-Premium Life; explain life insurance policy provisions, illustrations, reserves, surrender values, and gross premiums; explain adverse selection and reinsurance; discuss insurance regulation and current issues; explain individual annuities and analyze their costs, individual health, disability and long-term care, social insurance programs; apply the life insurance planning process; describe personal and business uses of life insurance. Successful students should be able to complete the HS 323 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3 -0) 3

INS 4324 Life Insurance Law (HS 324): Financial services professionals must understand the legal rights and obligations of the policy owner and the insurance company before and after the policy is issued. This course is required in CLU. Upon completion of this course, students should be able to recognize and discuss the legal environment of insurance; apply contracts and agency law; describe life insurance agents as employers; explain waiver and estoppel, policy formation; explain the legal effect of policy provisions, contract operations, property rights in life insurance, beneficiary designations and settlements, premiums and prematurity values, policy transfers and reinstatements, contract disputes, contract performance, health insurance, insurance advertising, privacy, and complete the HS 324 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4325 Group Benefits (HS 325): It is important that financial services professionals understand the benefits provisions and the advantages and limitations associated with group insurance as a method for meeting economic security needs. This course is required in CLU. Upon completion of this course, students should be able to recognize and discuss group insurance, the government environment for group insurance; identify the products and uses of group life insurance, group disability income insurance, group medical expense insurance, other group insurance benefits; describe the marketing of group insurance, group insurance pricing, alternative funding methods; explain other group insurance benefits; describe group plan design and cafeteria plans; and complete the HS 325 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4326 Planning for Retirement Needs (HS 326): This course, which is required in the CLU program, emphasizes planning for retirement income and for maximum tax benefit for individuals, employees and business owners. Upon completion of this course, student should be able to describe the retirement field, aid the consumer in choosing the best-qualified plan; tailor qualified plans to fit the client's objectives; choose the proper funding instrument to fit the client's needs; describe plan installation, administration, and termination; describe non-qualified deferred compensation plans and when to use them, and individual retirement arrangements; describe individual retirement planning; aid the client in determining post-retirement monetary needs; describe the various investments for retirement and the method and effect of distribution from retirement plans; and complete the HS 326 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4328 Investments (HS 328): Effective financial planning requires that the investment be selected that meets personal objectives and is consistent with personal risk preference. This course is required in CLU and ChFC. Upon completion of this course, students should be able to describe the role and scope of investments; explain the effects of return and risk, securities markets and how transactions are made; list and use sources of investment information; develop investment strategies; describe short-term investments; use financial statements such as balance sheets, income and retained earnings statements and cash flow statements; describe common stock investments; perform security analysis, common stock valuation, describe technical analysis and efficient markets; explain the corporate and government bond market; describe hybrid securities such as preferred stock, convertible securities, rights, warrants, options and futures; identify and describe mutual funds and tangible investments; perform portfolio management and apply investment strategies and tactics. Successful students should be able to complete the HS 328 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4329 Wealth Accumulation Planning (HS 329): Upon completion of this course, which is required in ChFC, students should be able to explain and apply personal tax principles and planning; make investment decisions for tax advantages; describe limits to tax advantage; compare and explain investment vehicles such as: partnerships and corporations, corporate, trust and personal ownership, real estate, oil and gas, minerals, energy, and agriculture programs, equipment leasing, research and development, and miscellaneous programs; describe how to get out of a tax-advantaged investment; explain the proper considerations in choosing a tax-advantaged investment; apply tactical and strategic tax planning methods for wealth accumulation; set objectives for planning for accumulation; and describe the life cycle of financial planning. Successful students should be able to complete the HS 329 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4330 Fundamentals of Estate Planning I (HS 330): The estate and gift planning process includes an understanding of the tax consequences of various estate planning devices. Upon completion of this course, which is required in CLU and ChFC, students should be able to explain the estate planning process; describe the various forms of property ownership, lifetime transfers, trusts, trustees and other fiduciaries, powers of appointment, transfers at death; explain the estate administration process; explain and apply federal gift tax laws; apply the federal estate tax laws to determine the gross estate, valuation of assets, basis, deductions from gross estate, the marital deduction and charitable deductions; compute and explain payment of federal estate taxes, income taxes of estates and trusts; describe and list other estate planning considerations. Successful students should be able to complete the HS 330 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4331 Planning for Business Owners and Professionals (HS 331): Upon completion of this course, which is an elective in CLU and ChFC, students should be able to identify and explain common business problems and planning objectives; differentiate between unincorporated business enterprises and corporations; describe compensation planning; identify and discuss problems in business continuation; explain needs for and types of buy-sell agreements for unincorporated and incorporated businesses, and stock redemption plans; explain the effect of lifetime dispositions of a business interest; plan the transfer of the family business; value a closely-held business; discuss the needs for and methods of planning for the disability of business owners and professionals, and explain the methods of managing risk in a closely-held business. Successful students should be able to

complete the HS 331 Exam. Students must register with the American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4332 Financial Planning Applications (HS 332): A case study course aimed at both integrating the various techniques, tools, and products covered in earlier courses in the chartered financial consultant program with the financial planning process outlined in INS 4320 (HS 320), and giving students practical application in analyzing and solving realistic financial problems of individuals and business. This course is required in ChFC. Students who complete this course should be able to utilize the financial planning process, principles, and strategies; gather and organize needed client data; develop an outline for a client's plan; and, using case studies, develop a plan for the middle- or upper-management executive or professional, young family, corporate executive, self-employed professional, small family-owned business and its owner, business tax planning for the successful closely-held corporation and its owners. Successful students should be able to complete the HS 332 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4334 Fundamentals of Estate Planning II: A continuation of INS 4330, this course is an elective in both CLU and ChFC. Upon completion of this course, students should be able to use life insurance in estate planning; develop the gross estate for Federal estate tax purposes; describe and utilize the valuation principles used in the estate planning process, estate reduction concepts, use of charitable contributions as an estate planning technique, and planning opportunities stemming from the marital relationship; discuss the taxation of trusts; give an overview of the Crummey Doctrine; describe the estate planning implications of the employer/employee relationship; discuss the estate planning considerations involving oil and gas interests and personal residence; explain the procedural principles of estate planning (including a case study), and sit for the HS 334 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4336 Financial Decision Making at Retirement (HS 33) This course shows the very important role of professionals in making proper retirement decisions and is required in ChFC. Upon completion of this course, students should be able to describe the importance and roll of the professional; estimate retirement income and capitals needs of the client; plan housing and health care needs; value sources of retirement income, including social security benefits, disbursements from qualified retirement plans and IRAs, disbursements from non-qualified plans and deferred compensation plans; plan for distributions from retirement plans; apply the minimum distribution and early-withdrawal installment rules, and the 15% excise tax; develop investment plans and asset allocation plans, and succession plans; describe the other retirement/estate planning considerations; and sit for the HS 336 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4337 Business Taxation and Planning (HS 337): This course is a study of taxation and funding considerations of businesses and is an elective in both CLU and ChFC. Upon completion of this course, students should be able to discuss the federal tax aspects of corporations, methods of capitalizing a new corporation, and special problems with corporations; explain S corporations and their advantages and disadvantages; describe dividends, redemptions and liquidations; apply tax and funding requirements to the purchase and sale of a corporate business; explain the federal tax aspects of partnerships; discuss the uses and funding of buy-sell agreements and their alternatives using life insurance, and sit for the HS 337 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4340 Employee Benefit Concepts and Medical Care Benefits (CEBS): This course begins with an overview of the environment of the employee benefit plans and covers hospital plans, surgical/medical expense plans, major medical plans, dental and vision care, and health care cost containment techniques. The new and/or expanded topics in the revised course include managed care, long-term care, health maintenance organizations (HMOs), preferred provider organizations (PPOs), and retiree medical benefits. (3-0) 3

INS 4341 Design and Administration of Life, Disability Income and Other Welfare Benefit Plans (CEBS II): This course covers the group insurance mechanism, life insurance benefits, short- and long-term disability income, employee assistance programs and dependent care arrangements. It includes expanded coverage of death benefits and public sector disability income benefits, flexible benefits, flexible spending accounts, as well as new subject areas such as family leave, unemployment benefits, employee discounts, educational benefits, credit unions, and management topics. (3-0) 3

INS 4342 Retirement Plans: Basic Features and Defined Contribution Approaches (CEBS III): After a historical introduction of private pension plan development, this course reviews the objectives of benefit plan design. It provides an analysis of the differences between defined benefit and defined contribution plans and gives an overview of the legal requirements (tax and nontax) that must be satisfied by qualified retirement plans. It explains defined contribution plans: money purchase, profit-sharing, thrift and savings, employee stock ownership plans (ESOPs), 401(k) plans, and simplified employee pensions (SEPs). Also included are individual approaches to retirement plan design: IRAs, Keogh plans, and 403(B) annuities for the nonprofit sector. (3-0) 3

INS 4343 Retirement Plans: Defined Benefit Approaches and Plan Administration (CEBS IV): After an overview of the retirement aspects of Social Security, defined benefit features are analyzed, and hybrid approaches (cash balance and target benefit plans) are discussed. Other topics are actuarial and accounting aspects of defined benefit plan sponsorship, basic concepts of investing pension assets, a comparison of the trust fund approach with the insured approach to plan funding, the implications of the plan termination insurance program of the Pension Benefit Guaranty Corporation (PBGC) for both terminating and ongoing sponsors and their employees, the taxation of retirement benefits, and nonqualified approaches to providing retirement income. (3-0) 3

INS 4344 Contemporary Legal Environment of Employee Benefit Plans (CEBS V): This course covers the legal

system and basic legal rights and responsibilities. It provides a general understanding of the legal environment focusing on those legal concepts and principles of significance in employee benefit planning and administration (3-0) 3

INS 4345 Accounting and Finance (CEBS VI): This course places emphasis on the financial and accounting concepts essential in the administration of employee benefit plans. The role of accounting as a system of communicating information to users inside and outside an organization is discussed. Concepts, principles and techniques of financial management are a major part of this course. (3-0) 3

INS 4346 Asset Management (CEBS VII): This course focuses on asset management in the context of the investment of pension plan assets. Subjects covered include securities markets, stock and bond valuation and analysis, portfolio theory, investment policy and federal securities regulation. (3-0) 3

INS 4347 Human Resources and Compensation Administration (CEBS VIII): This survey course examines human resources management and compensation administration including human resource planning, wage determination, employee benefits and noneconomic rewards, as well as institutional and economic issues such as seniority, management rights, and union security. (3-0) 3

INS 4348 Employee Benefit Plans and the Economy (CEBS IX): This course reviews the economic principles underlying inflation, national income, business cycles, employment levels, money and banking, monetary and fiscal policy, and the overall effect on employee benefit planning and administration. (3-0) 3

INS 4349 Contemporary Benefit Issues and Administration (CEBS X): The first section of this course explores administering, implementing and reviewing employee benefit plans along with management topics. The contemporary issues-related assignments will vary based on the employee benefits environment but will focus in the areas of health care, current government regulations and retirement issues. It is recommended that this course be taken last or concurrently with the final CEBS courses taken. (3-0) 3

***INS 4354 Professional Ethics:** Upon completion of this course, students should be able to identify and list the elements of the crimes most often committed by persons in the insurance industry, explain the insurance laws affecting agents' behavior, as well as understand the meaning of insurance being a "service industry." Students should also be able to identify ethical and non-ethical behavior from various case studies given.
*Prerequisite: Completion of at least 45 hours in this program. (2-2) 3

***INS 4395 General Insurance Part II—Life, Accident and Health:** A continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the North Carolina licensing exam required for Life, Accident and Health Insurance agents. Upon completion of this course, students should be able to discuss the exposures, types, policy provisions, and practices of life, accident and health insurance; interpret the regulations and laws specifically applying to life, health and accident agents, describe the various social insurance plans.
*Prerequisite: INS 4294. (3-0) 3

***INS 4396 General Insurance Part III—Fire and Casualty:** A continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the North Carolina licensing exam required for Fire and Casualty agents. Upon completion of this course, students should be able to discuss and explain the various lines for fire and casualty insurance such as automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime, and umbrellas. Students should also be able to explain the functions of government-sponsored insurance such as FAIR plans and BEACH plans; interpret the regulations and laws specifically applying to fire and casualty agents; discuss the forms for the various types of insurance.
*Prerequisite: INS 4294. (3-0) 3

INS 4400 Disability Income Training Course (LUTC): This is one of a series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF). Upon completion of this course, students should have the skills to enter the disability income market with knowledge and confidence. They should be able to describe the market opportunities, how to get extra sales, use field-proven methods to close sales of life and disability income, describe the business coverages and advantages, and turn objections around. Case studies will be used. Upon satisfactory completion of this course, students will earn 60 Study and Practice Equivalents toward the LUTCF. (4-0) 4

INS 4401 NASD Series 7 Review: This course is designed to prepare individuals to take the NASD Series 7 Exam. Upon completion of this course, students should be able to describe the various equity markets; explain the types of equities and how they differ; calculate conversion parity; describe the tax advantages of various investments; read a consolidated tape; describe how orders work; explain how puts and calls work; discuss the rules applying to client accounts; explain how margins work and how to calculate transactions in margin accounts; define short sales; discuss the economics that affect the equities market; complete a security analysis; read the financial news; calculate financial ratios; describe the taxation of securities transactions; read and understand applicable federal law and NASD regulations; and pass the Series 7 Exam. (4-0) 4

INS 4404 Fundamentals of Financial Services (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should be able to identify financial planning prospects; develop prospecting and approach techniques; understand legal requirements and their responsibility to clients, and of clients to agents; define and understand the agent's role; characterize the elements of a balanced financial plan; identify the impact of taxes of investment alternatives; use the IRS Form 1040 as a sales and learning tool; determine the best use of IRA/Keogh Thrift/403B trusts; incorporate alternative financial tools; read and interpret financial news and statements; identify impediments to plan implementation; utilize the concept of the financial planning team; use the course's one-

page visual illustrations and sales tracks. Satisfactory completion of this course earns 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4405 Professional Growth (LUTC): Another in the series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF), this course is designed especially for the established agent. Upon completion of this course, students should be able to develop a technique book; gain a fresh perspective into business activities; set realistic and attainable goals; describe the impact that insurance needs can have upon young families, and of dual careers on other stages in the client's life cycle; be able to deal with stress and rejection; develop methods to select and expand the agent's market; describe and aid clients in selecting medical products; examine ideas and techniques to help the agent better manage business time; review the insurance needs of aging adults and help them make proper selections of products. Upon satisfactory completion of this course, students will earn 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4406 Multiline Skills (LUTC): This is another in the series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF) and is designed for agents who market property and casualty insurance. Upon completion of this course, students should be able to identify prospects for multiline products; outline client's potential losses; characterize the types of available property and casualty coverage; identify the impact of the law upon the agent's activities; assist clients in identifying their insurance needs; evaluate the impact that premium rates and claim determinations may have upon clients; analyze various personal policies; learn transitions from property and casualty sales to life, disability and other insurance products; make recommendations to prospects; summarize government involvement with personal lines; recognize tax implications; analyze loss ratios; and understand the agent's responsibilities as an agent and advisor. Upon satisfactory completion of this course, students will earn 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4700 Advanced Sales Training Course (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should be able to sell with confidence in the more sophisticated advanced markets which include advanced estate planing, business insurance, and employee benefit plans. Satisfactory completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INS 4701 Personal Insurance Training Course (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should have obtained the knowledge to make sales and develop confidence. Further, they should be able to describe what makes a successful agent in the life industry; apply the total needs approach and dominant needs approach to selling; describe the value of life insurance ownership; use the positive ingredients of the sale; and compare new products. Satisfactory completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INS 4702 Business Insurance Training Course (LUTC): This is another in the series of Life Underwriting Training Courses. Upon completion of this course, students should be able to pinpoint and solve problems of business owners and key executives; describe how the magic of life insurance satisfies both business purposes and estate planning needs; be able to communicate effectively and confidently with business executives. Topics covered include business markets, ownership, death and money problems, taxes and tax-related sales, key executives, business continuation, disposition of property and sale tracks. Satisfactory completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INT – International Business

INT 3300 Introduction to International Business: This course is an introduction to the environment, concepts, and basic differences involved in international business. Upon completion of this course, students should be able to describe the international business climate (first, second, and third world); describe the forms of foreign involvement; explain international trade theory; explain governmental influences on trade and the strategies associated with them; name and describe the major organizations affecting international trade policy; explain the role of multinational corporations; and describe the difference involved in control, personnel management, and marketing in the international organization. (3-0) 3

***INT 3305 International Marketing:** Upon completion of this course, students should be able to describe the marketing opportunities in the international environment; explain methods of acquiring marketing information in other countries; describe the different methods of market entry and market strategy; describe methods of advertising and sales in the international environment; describe the different channels of distribution and methods of physical distribution; describe the pricing strategies for products in the international market and the effects of countertrade on this strategy; and explain the steps in formulating an overall product policy for the international marketplace.
*Prerequisite: INT 3300. (3-0) 3

***INT 3306 International Business Practices:** Upon completion of this course, students should be able to describe the forms of international business ownership; describe the organizational structure of foreign companies and the underlying concepts of power and authority; describe the effects of culture on business; describe the forms of verbal and non-verbal communication and explain the methods of researching the difference and techniques for adopting to the differences; explain the styles of negotiation in the international area and the methods of successfully responding to these styles; discuss ethical issues involved in international business; and develop a plan for doing business in a foreign country.
*Prerequisite: INT 3300. (3-0) 3

***INT 3307 Economics of International Trade:** Upon completion of this course, students should be able to describe the international balance of payments; explain foreign exchange rates and their determination; describe the concepts of forward exchange and hedging against exchange risks; describe the Bretton Woods International Monetary System and its collapse; explain the arguments for and against free trade and protectionism; describe tariff and non-tariff trade barriers and

explain the advantages and disadvantages of each; and discuss the forces and criteria for the development of a new international economic order.
*Prerequisite: INT 3300. (3-0) 3

***INT 4225 Cooperative Work Experience I:** This course is designed to aid students in applying the skills necessary for success in the area of international business under guidance of a company actively involved in international business. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan; perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field, and their potential success and advancement in that occupation; and analyze the job market in their chosen career prior to entering that career as a full time employee.
*Prerequisite: Complete the prescribed 25 credit hours and obtain permission of Department Head or Program Director. (2-0) 2

***INT 4226 Cooperative Work Experience II:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their interest and performance in the given occupational field and potential success and advancement in international business, and assess realistically the general requirements and responsibilities of successful employment; and evaluate their capacity to comply with entering that career as a full-time employee.
*Prerequisite: INT 4225. (2-0) 2

***INT 4307 International Business Law:** Upon completion of this course, students should be able to describe the different theories of law and their effect on the concepts of contracts, product liability, intellectual property and agency; describe methods for resolving disputes in international transactions; describe the major organizations involved in trade control; describe the operation of the General Agreement on Trade and Tariffs; and explain the effects of major U.S. law affecting international trade.
*Prerequisites: BUS 2304, INT 3300. (3-0) 3

***INT 4425 Travel Study Abroad:** This course is designed for students to apply their language and theoretical skills in an appropriate international business setting during a guided travel study of international study of international business functions in a foreign country. Upon completion of this course, students should be able to demonstrate strengthened skills in their language of choice; perform with greater competence and confidence in the international workplace; perform successfully the objectives outlined in the training plan; and develop a greater understanding of cultural patterns and business practices in the region of study.
*Prerequisite: INT 3300. (3-0) 3

IPP – Interpreter Training

IPP 1501 Sign Language I: Upon completion of this course, students should be able to identify and use 300-375 signs; construct simple sentences in American Sign Language demonstrating the proper placement of interrogatives, negatives, time indicators, operatives and topics; sign sentences applying grammatical features of ASL; ask and respond to questions about one's name, schooling, residence, family, and physical activities; define deafness; discuss psychological aspects of deafness; discuss various communication methods used to communicate with hearing impaired persons; and compare and contrast educational methods for teaching hearing impaired children. (5-0-0) 5

***IPP 1502 Sign Language II:** Upon completion of this course, students should be able to identify and use 500-750 signs; construct complex sentences in ASL demonstrating proper ASL syntax; sign complex sentences applying grammatical features of ASL; ask for and give directions; describe persons and clothing; give commands; make and respond to requests; explain relationships; discuss occupations; explain routines; discuss deaf culture; and identify things which support and define deaf culture.
*Prerequisite: IPP 1501. (5-0-0) 5

***IPP 1503 Translation and Intercultural Communication:** Upon completion of this course, students should be able to identify and describe the components of a cultural schema; identify and discuss the differences between the schema of American Deaf and hearing persons; discuss the differences in rhetoric between spoken English and ASL; discuss the role of the interpreter as cross-cultural mediators and techniques which can be utilized to achieve the greatest level of equivalency when interpreting or translating; and analyze, discuss, and translate basic ASL and English texts.
*Prerequisite: IPP 1502. (5-0-0) 5

IPP 3301 Interpretation: An Overview: Upon completion of this course, students should be able to compare and contrast models of interpretation and models of cognitive processes associated with interpretation; define specialized jargon used within the field; identify and discuss protocol associated with interpreting in different settings; apply ethical standards to a variety of work situations; and identify and discuss the types of employment opportunities for interpreters and appropriate working conditions related to each. (3-0-0) 3

IPP 3302 Critical Thinking and Analytical Skills for Interpreters: Upon completion of this course, students should be able to identify and discuss the cognitive processes associated with interpreting; develop skills in listening and retaining a sequence of information, analyzing a variety of messages for meaning and intent, articulating the relation of units of information to each other and predicting; develop skills in long-term and short-term memory retention, processing visual and auditory stimuli, and identifying and articulating the logic and reasoning associated with different texts; and increase their ability to do cognitive multi-tasking functions. (1-4-0) 3

***IPP 3314 Introduction to Discourse Analysis:** Upon completion of this course, students should be able to identify and discuss the different types and functions of discourse; compare low- and high-context usage, linguistical structure and cultural differences within the discourse style of ASL and English texts; analyze English and ASL texts at the lexical, syntactical, phrasal and discourse level and identify specifics regarding the specialized or uncommon vocabulary usage, register, main point, supporting ideas, logic and organization and cultural implications of each text; and identify and describe the different discourse patterns as they occur in interview, group and lecture situations.

*Prerequisite: IPP 1502. (3-0-0) 3

IPP 3324 Conversational Sign Language I: Upon completion of this course, students should be able to converse on a one-to-one basis with a hearing impaired individual in a work or social environment; demonstrate a basic knowledge of techniques which make communicating with a hearing impaired person more effective; and demonstrate a practical sign vocabulary of core and specialized signs of between 300-350 words. (3-0-0) 3

***IPP 3325 Conversational Sign Language II:** Upon completion of this course, students should be able to converse with a hearing impaired individual in a work, school, home, business, and social environment; demonstrate an advanced knowledge of communication techniques; demonstrate a practical sign vocabulary of core and specialized signs of between 500-750 words; and demonstrate receptive and expressive fingerspelling and numbers skills.
*Prerequisite: IPP 3324. (3-0-0) 3

IPP 3501 Comparative Cultures: American Deaf and Mainstream: Upon completion of this course, students should be able to define culture; identify observable attributes of deaf and mainstream (hearing) Americans; identify and discuss the social, political, educational, vocational, and historical issues faced by deaf Americans and mainstream Americans; describe the sociolinguistic continuum of language use within the deaf community; describe the five stages of enculturation citing examples of each; identify cultural conflicts between deaf and mainstream Americans; identify strategies for anticipating and managing cross-cultural conflicts; compare the value systems of deaf and mainstream Americans; discuss how prejudices are reflected and the impact on communication interactions. (5-0-0) 5

***IPP 3514 Introduction to Consecutive Interpretation:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in interviews originating in social service, employment, education and personal business settings; and discuss and apply the principles of protocol of interpreting in these settings.
*Prerequisite: IPP 3301, IPP 3302, IPP 3314, IPP 1503. (2-6-0) 5

***IPP 3515 Consecutive Interpretation II:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in legal (non-courtroom), medical professional meetings and small conference settings; and discuss and apply the principles of protocol of interpreting in these settings.
*Prerequisite: IPP 3514. (2-6-0) 5

***IPP 3516 Introduction to Simultaneous Interpretation:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in expository form originating in group meetings and conference settings; and discuss and apply the principle of protocol of interpreting in these settings.
*Prerequisite: IPP 3515. (2-6-0) 5

***IPP 3517 Simultaneous Interpretation II:** Upon completion of this course, students should be able to demonstrate the ability to analyze and interpret a variety of basic expository texts which serve an informational, hortatory and procedural function; discuss and apply the principles of protocol of interpreting to a variety of situations which occur during basic expository presentations; identify the register being used in a variety of expository texts; apply the appropriate linguistic or cultural adjustments required to achieve an equivalent register in the interpretation.
*Prerequisite: IPP 3516. (2-6-0) 5

IPP 4100 ASL Numbers and Fingerspelling: Upon completion of this course, the student should be able to increase their ability to accurately produce and comprehend ASL numbers and fingerspelling; identify the appropriate semantic category of usage. (0-2-0) 1

IPP 4300 Hearing and Deafness: Upon completion of this course, the student should be able to relate the nature and perception of sound to the sense of hearing; identify the major parts of the ear and the function of each part; classify hearing losses according to auditory dysfunctioning; describe some common causes of deafness; identify various medical/surgical treatments of hearing losses; identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses. (3-0-0) 3

***IPP 4508 Interpreting Practicum:** Upon completion of this course, the student should be able to discuss thoroughly the work experience in the student's practicum placement; discuss the procedures and service techniques of the agency where the student is placed; complete an in-depth research project as a major contribution to the Interpreter Training program selected in consultation with the instructor; maintain twelve hours of internship per week, documented in a weekly log reflecting the student's experience in the practicum.
*Prerequisite: IPP 3517. (1-0-12) 5

ISC – Manufacturing Engineering Technology

***ISC 3301 Engineering Economic Analysis:** Upon completion of this course, students should be able to state the concepts of engineering economic analysis; construct cash flow diagrams; evaluate different economic alternatives; discuss fixed, increment and sunk cost, depreciation and capitalized cost; make economic choices using methods of present worth, equivalent uniform annual cost, and MARR; perform replacement/retirement and breakeven analysis; and discuss value analysis and the effect of taxation on economic decisions.
*Prerequisite: MAT 3508. (2-3) 3

***ISC 3314 Computer-Assisted-Manufacturing (CAM):** Upon completion of this course, students should be able to enumerate and explain the major components of CAM, such as process engineering, fixed automation, Flexible Manufacturing Systems/Cells (FMS/FMC), programmable logic controllers (PLC), computer technology and networks, numerical control (NC), robotics, artificial intelligence (AI), design for manufacturing, group technology, and part design specifications.
*Prerequisite: Departmental permission. (1-6) 3

***ISC 3307 Introduction to Computer Integrated Manufacturing (CIM):** Upon completion of this course, students should be able to enumerate and explain the major components of CIM, such as Statistical Process Control (SPC), computer technology and networks, computer aided design (CAD), computer aided manufacturing (CAM), application software, Group Technology an design for Manufacturing, Numerical Control (NC), robotics, artificial intelligence (AI), Flexible Manufacturing Systems/Cells (FMS/FMC), process planning, automated storage and retrieval (ASR), inventory control, and business function, management and personnel challenges, and implementation.
*Prerequisite: Departmental permission. (3-0) 3

***ISC 4305 Plant Layout and Materials Handling:** Upon completion of this course, students should be able to explain the three types of classic layouts; design a plant layout, based on the following: size, physical and chemical characteristics, quantity and variety of parts, products and materials, the nature, size and quantity of machines and equipment, the worker, waiting and service factor, office and employee facilities; select the proper fixed and nonfixed floor and overhead materials handling equipment to move materials and products efficiently and economically.
*Prerequisite: DFT 3314, MEC 3405 or Departmental permission. (2-3) 3

***ISC 4307 Introduction To Robotics:** Upon completion of this course, students should be able to describe the function of industrial robots; identify the main components of robots; understand the principles of operation of the following robotic controls: hydraulic, pneumatic, and electrical/electronics; analyze the motion of the robot arm; explain the basic concepts, components, and application of servo systems; program robots to perform selected operations; and maintain, service and troubleshoot hydraulic, pneumatic and mechanical robotic equipment.
*Prerequisite: EDP 3310 or EDP 3405 or Departmental permission. (2-3) 3

***ISC 4308 Robotics/Automation:** Upon completion of this course, students should be able to describe and select industrial robots for typical automated manufacturing applications; design and program a typical robotic pick and place application; understand concepts of robotic/automation work cells, Flexible Manufacturing Systems (FMS), Computer Assisted Manufacturing (CAM), and hard automation; identify and justify the most economical system above for a specific manufacturing process; identify components of work cells, FMS and hard automation; and identify manufacturing processes for increasing productivity through the application of automated manufacturing technology.
*Prerequisite: ISC 4307 or Departmental permission. (2-3) 3

***ISC 4314 Statistical Quality Control:** Upon completion of this course, students should be able to use applied statistical concepts to control and quality of manufacturing processes. Primary emphasis will be on the use of statistical charting techniques to assist in controlling a process. Students will learn to interpret the charts for out-of-control situations, and use chart data and specification data to calculate process capability indices and interpret these indices as a measure of process capability. Laboratory sessions will be used to illustrate theory by use of case studies involving practical manufacturing process control situations and to demonstrate the use of a microcomputer as a process control tool.
*Prerequisite: MAT 3508, MEC 3405, or Departmental permission. (2-3) 3

***ISC 4316 Process Planning:** Upon completion of this course, students should be able to perform a dimensional and tolerance analysis of a product print, using tolerance charts; select and plan the process of manufacture and its sequence; and select the machine tool, standard and special equipment and tooling for the most economical manufacturing process.
*Prerequisite: DFT 3404, MEC 3405, or Departmental permission. (2-3) 3

ITA – Italian

ITA 1600 Elementary Italian I: Upon completion of this course, students will have a knowledge of some basic elements of Italian in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

***ITA 1601 Elementary Italian II:** This course is a continuation of ITA 1600. Students will learn basic elements of conversation, reading, and writing. (Does not satisfy humanities requirement.)
*Prerequisite: ITA 1600 within previous two quarters or consent of Department Head. (5-2) 6

***ITA 2600 Intermediate Italian I:** Students will use the native patterns of speech learned in ITA 1601 and will be able to recognize and use the subjunctive in the present, past, and future tenses. They will also be able to recognize and use the conditional perfect, the passato remoto, and the passive voice. They will read and be able to explain short essays in Italian describing the political, theatrical, musical, and technical life of modern Italy.
*Prerequisite: ITA 1601 or equivalent. (5-2) 6

LEP – Limited English Proficiency. See page 43.

Law Enforcement Technology – See PSC

LEX – Paralegal Technology

LEX 3300 Case Analysis and Reasoning I: This is the first course in a two-course sequence on the fundamentals of case analysis and case briefing. Upon completion of this course, students should be able to read and interpret state and federal court decisions involving common law, statutory law and constitutional law; describe the structure of the state and federal court systems; write a case brief and analogize fact situations. (3-0) 3

***LEX 3301 Case Analysis and Reasoning II:** This is the second course in a two-course sequence on the fundamentals of case analysis and case briefing. Upon completion of this course, students should be able to synthesize court decisions; analogize and distinguish court cases; and write a case brief suitable for use by an attorney.
*Prerequisites: LEX 3300 and admission to the Paralegal Technology Program. (3-0) 3

LEX 3303 Legal Research I: This is the first course in a two-course sequence that introduces students to the techniques of legal research. Upon completion of this course, students should be able to locate cases in the major federal, regional, and state reporters; cite cases using the latest edition of A Uniform System of Citation; perform research by using federal, regional and state digests and reporters; and update their research by using Shepard's Citations. (3-0) 3

***LEX 3304 Legal Research II:** This is the second course in a two-course sequence that introduces students to the techniques of legal research. Upon completion of this course, students should be able to perform basic legal research in American Law Reports, the North Carolina General Statutes, the United States Code Annotated, the United States Code Congressional and Administrative News, the Code of Federal Regulations, and Words and Phrases.
*Prerequisites: LEX 3300, LEX 3303, LEX 3310. (3-0) 3

LEX 3306 Administrative Law: Upon completion of this course, students should be able to understand and explain agency practices and procedures at both the federal and state levels; prepare documents; comply with rules of evidence and appellate procedure at and beyond the agency level; and be prepared to participate in agency practice with minimal supervision. (3-0) 3

LEX 3310 Introduction to Civil Procedure: This course introduces students to the rules of civil procedure through the use of the United States and North Carolina constitutions and the applicable statutes. Upon completion of this course, students should be able to describe and analyze the process of a civil trial as governed by the state and federal rules of civil procedure. (3-0) 3

***LEX 3320 Evidence:** This course examines the principal rules of evidence applicable to civil trials, their modern application and the statutes affecting the field. Upon completion of this course, students should be able to distinguish between direct and cross examination; explain the methods and limits of impeachment; utilize real and demonstrative evidence; identify the proper introduction of opinion evidence; discuss the burden of proof; recognize hearsay and its exceptions; and explain the importance of preserving the record for appeal.
*Prerequisites: LEX 3300, LEX 3301. (3-0) 3

LEX 4280 Legal Ethics: This course analyzes the ethics of attorneys and their support staff. Upon completion of this course, students should be able to explain the N.C. Unauthorized Practice of Law Statutes and how they apply to a paralegal; understand the North Carolina Rules of Professional Conduct; identify authority that can and cannot be delegated by the attorney; and discuss what constitutes proper supervision of a paralegal. (2-0) 2

***LEX 4290 Cooperative Work Experience I:** Upon completion of this course, students should be able to identify the relationship between theoretical legal constructs and work skills required within the legal environment; successfully integrate theories with practices; enhance present work skills by integrating theories with current practices; and develop new skills through a carefully planned and coordinated effort of supervision between an institutional representative and each participant's respective employer.
*Prerequisites: COE 3100, completion of 29 hours in the program, permission of the Paralegal Program Director. (2-0) 2

***LEX 4291 Cooperative Work Experience II:** Upon completion of this course, students should be able to identify the relationship between theoretical legal constructs and work skills required within the legal environment; successfully integrate theories with practices; and develop new skills through a carefully planned and coordinated cooperative effort of supervision between an institutional representative and each participant's respective employer.
*Prerequisite: LEX 4290. (2-0) 2

LEX 4300 Domestic Relations Law: This course examines the various laws of North Carolina that affect marriage and family relationships, such as statutory grounds for divorce, defenses to divorces, elements of separations by court order or by mutual consent and custody of children. Upon completion of this course, students should be able to discuss the various applicable statutes; interview the client and potential witnesses; and aid the attorney in drafting of divorce, custody, and support pleadings, separation agreements, consent judgments, court orders, and documents for adoption.(3-0) 3

LEX 4313 Collections and Bankruptcy: This course emphasizes a study of the laws and procedures for handling collections and bankruptcies for clients. Upon completion of this course, students should be able to aid the attorney in drafting necessary form letters, interviewing the client, investigating the fact situation, and completing the package of appropriate bankruptcy documents. (3-0) 3

***LEX 4314 Wills, Trusts and Probate:** This course emphasizes procedures concerning distribution of property by trusts, wills, and intestacy. Upon completion of this course, students should be able to interview clients, use a wills manual, and aid the attorney in drafting wills and trusts, as well as complete the documents necessary to administer an estate.
*Prerequisites: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310. (3-0) 3

***LEX 4321 Tort Law:** This course provides an introduction to the fundamental principles of the law on torts. Upon completion of this course, students should be able to recognize the most common intentional torts and negligence, and evaluate the type of tort defenses available to each.
*Prerequisites: LEX 3300, LEX 3301, LEX 3310. (3-0) 3

***LEX 4322 Corporate Law:** This course involves study of the laws of North Carolina concerning sole proprietorships, general partnerships, limited partnerships and corporations. Upon completion of this course, students should be able to explain the basic advantages and disadvantages of each of the primary forms of business organization; prepare basic partnership and corporate documents; and know how to file corporate and partnership documents properly.
*Prerequisites: LEX 3300, LEX 3301, LEX 3310. (3-0) 3

***LEX 4323 Legal Writing I:** This course is a continuation of LEX 3303 and LEX 3304 and is the first course in a two-course sequence. This course is designed to train students to express the results of their research and analysis of legal problems clearly and effectively. Upon completion of this course, students should be able to apply the principles of

expository prose and the rhetoric of persuasion to the kind of writing required in preparing case briefs, client letters and trial memoranda.
*Prerequisites: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310, LEX 3320, ENG 1504, ENG 1505. (3-0) 3

***LEX 4324 Legal Writing II:** This is the second course in a two-course sequence. Upon completion of this course, students should be able to prepare both internal and external memoranda, briefs for pre-trial and post-trial motions, opinion letters, and such other types of written work as an attorney might require of a paralegal.
*Prerequisite: LEX 4323. (3-0) 3

***LEX 4332 Trial Preparation and Procedures:** This course emphasizes the application of the rules of civil procedure and evidence in the trial setting. Students who complete this course should be able to aid the attorney in the drafting of the various pleadings, motions, orders, interrogatories and affidavits that are the ordinary components of trial actions and help prepare the case file and exhibits for trial.
*Prerequisites: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310, LEX 3320. (3-0) 3

LEX 4340 Qualified Pension Plans: This course surveys the major types of qualified plans, required plan provisions, participation and vesting requirements, processes to follow in adopting a plan, funding of a plan, fiduciary responsibilities, reporting and disclosure under ERISA and responsibilities of the Pension Benefit Guaranty Corporation. Upon completion of this course, students should be familiar with different types of qualified retirement plans, plan provisions under ERISA and the IRS, duties and responsibilities of parties associated with qualified plans, and the administrative forms and procedures in the pension area. (3-0) 3

LEX 4341 Worker's Compensation Law: This course is designed to familiarize students with the methods for initiating and handling a worker's compensation claim from the initial filing of the claim to the hearing before the Industrial Commission as set forth in Chapter 97 of the North Carolina General Statutes. Upon completion of this course, students should be able to aid an attorney in completing documents essential to perfect a claim. (3-0) 3

LEX 4361 Interpreting Medical Reports: This course is designed to acquaint students with the terminology, diagnosis, and treatment of physical injuries most often seen in medical reports in personal injury cases. Upon completion of this course, students should be able to review and analyze the various medical reports sent to a law office in personal injury cases. (3-0) 3

***LEX 4620 Real Property Law and Title Abstracting:** This course examines the laws of real property and common types of real estate transactions and conveyances. Upon completion of the course, students should know the major forms of real property ownership; be familiar with lien law; be able to aid the attorney in the drafting of deeds, deeds of trust, mortgages, and other documents necessary to close real property transactions; and be able to aid the attorney in completing residential real estate loan packages.
*Prerequisites: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310. (6-0) 6

MAC – Machinist

MAC 3201 Machine Operations for Engineering Technicians: Upon completion of this course, students should be able to calculate speeds and feeds for lathes, milling machines, and drill presses; lay out, drill, and tap holes to specified tolerances; describe the nomenclature of chucking and holding devices, cutting tools, and operating procedures for drill presses, lathes, milling machines, and grinding machines; and set up and operate lathes and milling machines. (1-3) 2

***MAC 3202 CNC Programming and Machining for Engineering Technicians:** Upon completion of this course, students should be able to demonstrate a basic knowledge of numerical control and computer numerical control programming; produce a part program; write a program for a CNC machining center to include linear interpolation, drilling, boring, and pocket milling; MDI programs into CNC turning and machining centers.
*Prerequisite: MAC 3201 or permission of the Machinist Program Director. (1-2) 2

MAC 5200 Precision Instrument Reading: Upon completion of this course, students should be able to solve problems related to the machinist's field involving fractions and decimals; read basic 3-view projections; properly care for, read, and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gauge, micrometer, dial indicator, gauge blocks, and fixed gauges. (2-0) 2

MAC 5201 Machine Shop Practices: Upon completion of this course, students should be able to identify and use the basic hand tools and measuring instruments associated with the metal working trades; perform basic operations using a drill press, lathe, milling machine, and grinding machine; remove broken studs and taps properly; state the uses of, and install helicoils; and describe and use all appropriate safety procedures. (1-3) 2

MAC 5203 Blueprint Reading for Machinists I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines and dimensions; interpret notes, thread notations, and welding symbols; make pictorial sketches; and interpret basic drawings. (1-2) 2

***MAC 5204 Blueprint Reading for Machinists II:** Upon completion of this course, students should be able to read and interpret industrial prints of a more complex nature; and interpret geometric tolerance symbols and true position dimensioning; and sketch details and assemblies.
*Prerequisite: MAC 5203 or permission of the Machinist Program Director. (1-2) 2

***MAC 5205 Coordinate Measuring Machine Applications:** Upon completion of this course, students should be able to describe the uses and functions of the coordinate measuring machine; program the machine; list and use proper command functions for measuring; edit programs and make changes when needed; and measure parts for taper, perpendicularity, concentricity, roundness, and flatness.
*Prerequisite: MAC 5200 or permission of the Machinist Program Director. (1-2) 2

MAC 5296 Machinist Co-Op I: Upon completion of this course, students should be able to apply the skills acquired in machinist courses to actual working situations in the machinist industry; produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience; and demonstrate exemplary attendance and work habits. (0-20) 2

***MAC 5297 Machinist Co-Op II:** This is a continuation of MAC 5296 Machinist Co-Op I.
*Prerequisite: MAC 5296. (0-20) 2

MAC 5300 Fundamentals of Computer Numerical Control Programming: Upon completion of this course, students should be able to describe the principles involved in the operation of NC and CNC machines; translate information from prints into X and Z coordinate terms; compose a point-to-point positioning manuscript; compose a sequential manuscript for a two-axis CNC lathe; solve programming problems involving tool paths and pitch circles; and position, adjust, set feed rates, operate, and correct performances of a CNC training lathe during program run. (3-0) 3

***MAC 5303 Computer Numerical Control Machining Center Operations:** Upon completion of this course, students should be able to use proper safety procedures; set up tooling for the machining center; load programs and machine complex parts; use precision instruments; use proper insert tooling and state their uses in machining different types of materials; operate the main control panel and be able to enter MDI programs into the computer memory; establish point of origin and locate fixture properly; and prove accuracy of program using block-by-block procedure.
*Prerequisites: MAC 5200, MAC 5311, MAC 5422, or permission of the Machinist Program Director. (2-3) 3

***MAC 5304 Computer Numerical Control Programming - Turning Center:** Upon completion of this course, students should be able to describe the proper use and uses of indexable qualified tooling; determine proper speeds and feeds; describe the "G" codes and their applications for the turning center; manually set up and operate the turning center for CNC programs; write programs for straight and taper turning, turn radii and chamfers, O.D. and I.D. threading; enter programs into the Yasnac and Okuma controllers; write programs for lathe capabilities; and organize and edit programs.
*Prerequisites: MAC 5300, MAC 5200, MAC 5311, MAC 5422, or permission of the Machinist Program Director. (2-2) 3

***MAC 5305 Computer Numerical Control Programming-Machining Center:** Upon completion of this course, students should be able to list codes and describe machine control words; write manuscript using canned drilling cycles, straight line linear interpolation, circular interpolation, close tolerance boring, and threading cycles; determine correct speeds and feeds; load programs into CNC controls; optimize and edit programs; and prepare tapes to plot, prove, edit and produce parts on a machining center.
*Prerequisites: MAC 5300, MAC 5200, MAC 5311, MAC 5422, or permission of the Machinist Program Director. (2-2) 3

***MAC 5306 Computer Numerical Control Turning Center Operations:** Upon completion of this course, students should be able to use proper safety procedures; set up tooling for the turning center; load programs and machine complex parts; use precision instruments; use proper carbide insert tooling and state their uses in machining different types of materials; operate main control panel and be able to MDI programs into computer memory; load programs by tape to transmit programs from programming system to machine and back to terminal for storage; make tool offsets and set tooling to programmed point of origin; and prove accuracy of new program by using block-by-block procedure.
*Prerequisites: MAC 5200, MAC 5311, MAC 5422, or permission of the Machinist Program Director. (2-3) 3

***MAC 5307 Machine Tool Applications:** Upon completion of this course, students should have completed assigned projects using skills learned in prerequisite courses, including the following: planning work for correct machining and ease of operation; using machine tools and hand tools in a proper and safe manner; and using proper work habits.
*Prerequisites: MAC 5311, MAC 5313, MAC 5422, MAC 5424, or permission of the Machinist Program Director. (0-9) 3

***MAC 5310 Computer Numerical Control Programming Applications:** Upon completion of this course, students should be able to write complex programs for the turning and machining centers, key in programs; edit programs for changes; plot part and produce tapes for programs; produce fixturing for parts; load programs from terminal; set up tooling and fixtures; and produce complex parts on both turning and machining centers.
*Prerequisites: MAC 5300, MAC 5304, MAC 5305, MAC 5303, MAC 5306, or permission of the Machinist Program Director. (2-2) 3

***MAC 5311 Basic Lathe Operations:** Upon completion of this course, students should be able to calculate the correct RPM's; state the reasons for correct speeds and feeds, and select the proper speeds and feeds for assigned projects; use proper work holding devices; select proper lathe tools; calculate and identify standard tapers; determine proper thread depths; perform operations with prescribed accuracy for straight turning, knurling, threading (external), boring, and tapering; and use safe and proper techniques in all procedures.
*Corequisite: MAC 5200 or permission of the Machinist Program Director. (1-6) 3

***MAC 5313 Layout, Hand Tool, and Drill Press Procedures:** Upon completion of this course, students should be able to identify different types of drill bits and taps, and state the purpose of each; properly use hand tools normally used in machine shop work; use layout tools with prescribed accuracy; calculate correct drilling speeds; operate the drill press to drill, ream, countersink, counterbore, machine tap; and lay out and drill multiple holes.
*Corequisite: MAC 5200 or permission of the Machinist Program Director. (1-6) 3

***MAC 5315 General Machining and Maintenance:** Upon completion of this course, students should be able to repair broken and/or worn machine parts; produce left-hand and double-lead threads, both internal and external; calculate proper depths; use thread wires for measuring depths of

threads; produce concave and convex radii using the rotary table; produce typical machine parts; and complete industrial grade projects.
*Prerequisites: MAC 5311, MAC 5313, MAC 5422, MAC 5424, or permission of the Machinist Program Director. (1-6) 3

***MAC 5317 Computer Numerical Control Graphics Programming—Turning Center:** Upon completion of the course, students should be able to develop a complete job plan using SmartCAM software, including: machine selection, tool selection, operational sequence, speed, feed, depth of cut and tool offsets; demonstrate the interaction of menus to develop a shape file in a graphics CAM system; and develop tool path geometry and part geometry to produce accurate machine tool information.
*Prerequisites: MAC 5300, MAC 5304, MAC 5305, or permission of the Machinist Program Director. (2-2) 3

***MAC 5318 Computer Numerical Control Graphics Programming—Machining Center:** Upon completion of the course, students should be able to develop a complete job plan using SmartCAM software, including: machine selection, tool selection, operational sequence, speed, feed, depth of cut and tool length offsets; develop a shape file in a graphics CAM system; produce coded information from CAM graphics to the computer numerical control milling center; use time-saving enhancement features of a graphics programming system to develop tool path and part geometry and perform editing functions; and describe how multi-axis CNC machining relates to part fixturing.
*Prerequisites: MAC 5300, MAC 5304, MAC 5305, or permission of the Machinist Program Director. (2-2) 3

***MAC 5319 Advanced 3-D Graphic Programming:** Upon completion of this course, students should be able to generate programs from 3-D graphics related to computer numerical control milling centers; understand the principles of 3-D graphics; transfer 2.5-D files to a 3-D graphics programming system; check and edit a transferred 2.5-D file in a 3-D graphics programming system; and demonstrate the interaction of macros when used in conjunction with 3-D CAM graphics.
*Prerequisites: MAC 5317, MAC 5318, or permission of the Machinist Program Director. (2-2) 3

***MAC 5320 Calculations for Machinists II:** Upon completion of this course, students should be able to discuss angular measurement in relation to blueprints and shop drawings; solve for unknown dimensions and angles using right-angle trigonometry and symmetry; explain the practical application in the machinist trade of the Pythagorean Theorem; interpolate trigonometric functions from a table of such functions; use a sine bar and gauge blocks to determine unknown measurements or angles; solve for unknowns using the law of sines and the law of cosines; and apply angular measurement and right angle trigonometry to shop calculations.
*Prerequisite: MAC 5401 or permission of the Machinist Program Director. (3-0) 3

MAC 5401 Basic Calculations for Machinists: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems in the machinist field; find direct and indirect ratios and proportions; read a scale and micrometer accurately; apply geometric formulas toward thread calculations; manipulate fractional and decimal numbers; perform area and volume calculations; use angular and geometric measurements in problem solving; apply simple algebraic equations to work problems; and discuss measurement using the metric system as well as the English system. (4-0) 4

***MAC 5422 Basic Milling Operations:** Upon completion of this course, students should be able to calculate proper speed and feed rate for milling cutters, and state the importance of correct speed and feed selection; and demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting, and horizontal plain milling.
*Corequisite: MAC 5200 or permission of the Machinist Program Director. (2-6) 4

***MAC 5424 Grinding Machine Operations:** Upon completion of this course, students should be able to describe grinding machine theory and practice; make proper abrasive selections; select appropriate speeds; and demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder and cylindrical grinder.
*Prerequisites: MAC 5311, MAC 5422, or permission of the Machinist Program Director. (2-6) 4

Manufacturing Engineering Technology – See ISC

MAT – Mathematics

Note: Prerequisites will be strictly enforced. Students who fail to provide the Mathematics Department with evidence of an acceptable mathematics background or of an adequate placement test score will not be allowed to register for mathematics classes.

***MAT 1504 College Algebra I:** This is the first of a two-course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. Students will recognize and apply the properties of the real numbers system: add, subtract, multiply, and divide polynomials and rational expressions; factor; define and use integral and fractional exponents; simplify radicals; rationalize denominators; solve first- and second-degree equations and inequalities in one variable; solve applied problems; define and graph linear functions, determine inverses of linear functions; determine composition of functions; add subtract, multiply, and divide functions.
Note: MAT 1504 is not applicable to mathematics, engineering, or science majors. Credit is not given to students already having credit for MAT 1514.
*Prerequisite: Placement examination, or a grade of C or better in MAT 9510, or consent of Department Head. (5-0) 5

***MAT 1505 College Algebra II:** This is the second of a two-course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. Students will define, graph, and use exponential and logarithmic functions; use properties of logarithms; compute with logarithms and calculators; solve logarithmic and exponential equations as well as applied problems; solve systems of linear equations and inequalities algebraically and using determinants;

use linear programming; find permutations and combinations; determine probabilities of events; solve quadratic equations and inequalities; graph quadratic and other non-linear functions and relations; write equations for and graph conic sections; solve simultaneous second-degree equations; use sequences, series, and summation notation; and solve applications using arithmetic and geometric progressions.
Note: MAT 1505 is not applicable to mathematics, engineering, or science majors. Credit is not given to students already having credit for MAT 1514.
*Prerequisite: A grade of C or better in MAT 1504, or consent of Department Head. (5-0) 5

***MAT 1512 Calculus for Business and Social Sciences:** This is a brief treatment of the calculus for non-mathematics or non-engineering majors. Students will review functions and relations. They will be able to find limits; determine if a function is continuous; find derivatives of algebraic expressions by the definition; find derivatives by using differentiation techniques; differential implicit functions; find higher order derivatives; apply the derivative to find relative and absolute extrema; determine concavity and points of inflection; find differentials; evaluate definite and indefinite integrals; find areas by integration; differentiate and integrate exponential and logarithmic functions
*Prerequisite: A grade of C or better in MAT 1505 or MAT 1514, or consent of the Department Head. (5-0) 5

***MAT 1514 Precalculus Mathematics I:** This is the first of a two-course sequence designed to prepare students for the four-quarter calculus sequence or additional work in mathematics. Students will state and use the basic properties of the real number system; add, subtract, multiply, and divide algebraic expressions; factor; expand using the Binomial Theorem; solve first - and second-degree equations; define, graph, and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree, solve linear and non-linear inequalities.
*Prerequisite: Placement examination, or a grade of C or better in MAT 1504, or consent of the Department Head; Corequisite: MAT 9511, or high school geometry, or consent of the Department Head. (5-0) 5

***MAT 1515 Precalculus Mathematics II:** This is the second of a two-course sequence designed to prepare students for the four-quarter calculus sequence or additional work in mathematics. Students will solve systems of equations using algebraic, graphic, and matrix methods; define, graph, and apply exponential and logarithmic functions; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trignomometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; state and apply the properties of the conic sections.
*Prerequisite: MAT 1514, or consent of the Department Head. (5-0) 5

***MAT 1524 Analytic Geometry and Calculus I:** This is the first of a four-quarter unified sequence of calculus. (The four-quarter sequence is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) Students will study algebraic and trigonometric functions with regard to the concepts of limits, derivatives, continuity, implicit differentiation, the differential and Newton's method of root approximation; apply the derivative to find extrema, increasing and decreasing intervals, concavity and graphing; and solve related-rate problems. Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 1515 and plane geometry, or consent of the Department Head. (5-0) 5

***MAT 2504 Analytic Geometry and Calculus II:** This is the second of a four-quarter sequence of calculus. Students will evaluate definite and indefinite integrals with regard to algebraic, exponential, trigonometric, logarithmic, hyperbolic and inverse functions; state and apply the Fundamental Theorem of calculus; apply calculus techniques to finding area, volume, work, pressure and study exponential growth and decay. Use summation notation and find approximations to area. Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 1524, or consent of the Department Head. (5-0) 5

***MAT 2505 Analytic Geometry and Calculus III:** This is the third of a four-quarter sequence. Students will solve integration problems by the techniques of substitution, parts, trigonometric substitutions, partial fractions, miscellaneous substitutions; use integral tables; use numerical integration; solve analytic geometry problems involving the conic sections; use the polar coordinate system (with regard to calculus ideas); find the limit of indeterminate forms (via L'Hopital); evaluate improper integrals; use Taylor's polynomial and approximations, sequences and series. Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 2504, or consent of the Department Head. (5-0) 5

***MAT 2506 Analytic Geometry and Calculus IV:** This is the last of a four-quarter sequence. Students will perform operations on vectors in two and three dimensions; find derivatives and integrals of vector-valued functions in two and three dimensions; find velocity and acceleration; determine domain, continuity and the differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher-order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives; apply multiple integrals (including double integrals, iterated integrals, center of mass, double integrals in polar coordinates, surface area and triple integrals). Computer techniques will be used where applicable.
*Prerequisite: A grade of C or better in MAT 2505, or consent of the Department Head. (5-0) 5

***MAT 2508 Ordinary Differential Equations:** This is a first course in the study of differential equations. Upon completion of this course, students will be able to solve ordinary differential equations by the standard method of solution. This includes the methods of variable separable, first-order, exact, homogeneous, equations reducible to first-order, existence and uniqueness of solutions, homogeneous equations with constant and variable coefficients, Euler, linear homogeneous by Taylor's series, nonhomogeneous and undetermined coefficient; variation of parameters; elimination and matrix method to homogeneous linear solutions; variation of parameter to non-homogeneous systems; the Laplace transform applied to differential equations and systems; series solution of second-order linear equations; boundary value problems including eigen values and eigen functions; numerical solutions including Euler Taylor, Runge-Kutta and sys-

tems of first-order. In addition, students will demonstrate an understanding of the general theory of ordinary differential equations and the application of differential equations to present-day engineering problems. Computer techniques will be used where applicable.
*Corequisite: MAT 2506 or consent of the Department Head. (5-0) 5

***MAT 2514 Statistics I:** Students will organize, analyze, and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial, normal +, and chi square distributions; test hypotheses, find sample sizes and confidence intervals for a single population.
*Prerequisite: A grade of C or better in MAT 1504 or MAT 3504 or MAT 3507, or consent of the Department Head. (5-0) 5

***MAT 2515 Statistics II:** This is a continuation of Statistics I. Students will draw statistical inferences using students' t, chi-square, and F distributions for two populations; design experiments; use analysis of variance, contingency tables and linear regression; evaluate the correlation coefficient; test the utility of a multiple regression model; use nonparametric methods including the sign test. Students will select and prepare an individual project.
*Prerequisite: A grade of C or better in MAT 2514, or consent of the Department Head. (5-0) 5

***MAT 2590 Individual Study:** This course will provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathematics Department.
*Prerequisite: Approval of the sponsoring instructor and the Department Head. (5-0) 5

MAT 3306 Technical Trigonometry: Students will define the trigonometric ratios; solve right triangles; find resultants and components of vectors; add vectors; find trigonometric ratios of standard position angles; solve oblique triangles using the laws of sines and cosine. (3-0) 3

***MAT 3504 Technical Mathematics I:** Students will solve fractional, non-fractional, and quadratic equations; find special products and factor; graph; perform operations on algebraic fractions; rearrange formulas; solve systems of equations; and use matrices and determinants.
*Prerequisite: Placement examination or a grade of C or better in MAT 9502 or MAT 9510. (5-0) 5

***MAT 3505 Technical Mathematics II:** Students will perform operations on polynomials; solve and graph linear equations; simplify and perform operations on square root radicals; solve radical equations and formulas; graph non-linear functions; and find powers and roots.
*Prerequisite: A grade of C or better in MAT 3504, or consent of the Department Head. (5-0) 5

***MAT 3507 Engineering Technology Mathematics I:** Students will perform the basic operations on algebraic expressions; evaluate and solve formulas; define and recognize a function; graph functions; solve systems of linear equations graphically; algebraically, and by determinants; define and use trigonometric functions to solve right triangles; find trigonometric functions of any angle, find rector sums and differences; apply readians to problem solving; solve oblique triangles by laws of sines and cosines.
*Prerequisite: Placement examination, or a grade of C or better in MAT 9510, or consent of Department Head; Corequisite: High school credit in geometry, or MAT 9511. (5-0) 5

***MAT 3508 Engineering Technology Mathematics II:** This is a continuation of MAT 3507. Students will add, subtract, multiply, and divide algebraic fractions; solve quadratic equations by factoring, completing the square, and quadratic formula; perform basic operations on expressions containing exponents, radicals, complex numbers, logarithms, exponential functions; and evaluate determinants using cofactors.
*Prerequisite: A grade of C or better in MAT 3507, or consent of the Department Head. (5-0) 5

***MAT 3509 Engineering Technology Mathematics III:** This is an applied course in analytic geometry and calculus designed for engineering technology students. Students will solve inequalities, verify trig. identities, solve plane analytic geometry problems related to the circle, parabola, ellipse, hyperbola, and straight line; find limits, slope of a tangent line to a curve, and derivatives; differentiate polynomials, products quotients, powers and implicit functions; apply the derivative to tangents and normals, curvilinear motion, related rates, curve sketching, Newton's method to solve equations, and maximum minimum problems.
*Prerequisite: A grade of C or better in MAT 3508, or consent of the Department Head. (5-0) 5

MAT 3516 Introduction to Statistical Process Control: Upon completion of this course, students should know about the history of Process and Quality Control and especially how it relates to foreign competition; know how to make frequency distributions and histograms; compute mean, median, mode, standard deviation, and range; understand the difference between prevention and detection, and how these apply to modern industry; make and use Cause and Effect Diagrams, Pareto Charts, and Stem and Leaf Diagrams; make, use, and interpret various control charts for Variables including "X-R", "X-s", "Individuals" charts; make, use, and interpret various control charts for attributes including "p", "np", "c", and "u"; know how to find process capability; know about efficient and inefficient industrial operations from various case studies. (5-0) 5

***MAT 4507 Engineering Technology Mathematics IV:** This is a continuation of MAT 3509. Students will find differentials, antiderivatives, indefinite integrals; intergrade numerically; and evaluate integrals using the Trapezoidal Rule. Students will also apply integration to practical problems; find derivatives of transcendental functions; use various methods of integration to evaluate intervals; and expand functions in series using Maclaurin, Taylor and Fourier Series.
*Prerequitie: A grade of C or better in MAT 3509, or consent of the Department Head. (5-0) 5

***MAT 5304 Basic Mathematics I:** Upon completion of this course, students should be able to perform arithmetic operations on whole numbers, fractions, and decimals; solve problems relating to percent, metric measurements, graphs;

perform for both flat and solid shapes; perform simple operations involving the fundamentals of applied trigonometry, such as concepts of right triangle trigonometry, sine, cosine, and tangent. Applications are designed specifically for students in the Mechanical Drafting curriculum.
*Prerequisite: Placement examination or a grade of C or better in MAT 9501, or MAT 9510, or consent of the Department Head. (3-0) 3

***MAT 5305 Basic Mathematics II:** Upon completion of this course, students should be able to perform simple operations involving the fundamentals of applied algebra such as symbols, first degree equations, ratio and proportions, exponents and radicals; perform simple operations involving tolerances, classes of fits and dimensional tolerancing.
*Prerequisite: A grade of C or better in MAT 5304, or consent of the Department Head. (3-0) 3

MAT 9500, MAT 9501, MAT 9502, MAT 9510, MAT 9511: See page 47.

MEC – Mechanical Engineering Technology

MEC 3101 College and Career Orientation: Upon completion of this course, students should have received an orientation to the College, the mechanical/manufacturing programs, including the services and personnel available; explored available mechanical/manufacturing course specializations and associated career path opportunities; explored the continuing education possibilities, including the Bachelor of Engineering Technology (BET) programs; explored the benefits of membership in professional organizations, including the student section of SME; and heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

MEC 3404 Manufacturing Processes I: Upon completion of this course, students should be able to describe the different methods of metal casting and their fields of application; discuss the production and uses of powder metal products; describe the different methods of hot and cold metal forming and their use; explain the different types of welding methods and their fields of application; enumerate some other joining processes, such as brazing, soldering, mechanical fastening, etc., and specify their proper field of use; and predict and identify potential problems related to the above basic manufacturing processes. (3-3) 4

***MEC 3405 Manufacturing Processes II:** Upon completion of this course, students should be able to discuss standards of measurements; use precision and non-precision measuring devices; explain the difference between accuracy and precision; understand and use the principles of metal cutting theory as related to tool geometry, machinability, surface finish, coolants and lubricants and choice of cutting tool materials; describe the construction and use of the lathe family of machine tools and the various types of drill presses and milling machines; describe the abrasive machining processes and the characteristics of grinding machines; and identify and describe several nontraditional machining methods.
*Prerequisites: MEC 3404, MAC 3201, MAT 3507. (3-3) 4

***MEC 3524 Mechanics of Materials:** Upon completion of this course, students should be able to identify and calculate simple stresses; compute the deformation and strain due to axial and shearing stresses; construct shear and moment diagrams; calculate stresses in beams and deflection of beams; compute stresses due to combined loading; analyze and design welded, bolted and riveted connections; and calculate the load carrying capacities of long and intermediate columns.
*Prerequisites: MAT 3508, MEC 4508. (3-6) 5

***MEC 4284 Cooperative Work Experience:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Mechanical and Manufacturing Engineering Technology industry; and gain applied experience to compliment classes and lab instruction.
*Prerequisites: 45 credit hours earned in residence toward engineering technology degree, permission of Co-Op office, COE 3100. (0-0-20) 2

***MEC 4285 Cooperative Work Experience II:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Mechanical and Manufacturing Engineering Industries; and demonstrate results of applied experience to compliment class and lab instruction.
*Prerequisites: MEC 4284, permission of Co-Op office. (0-0-20) 2

***MEC 4402 Machine Design:** Upon completion of this course, students should be able to design machine parts on the basis of function and strength of material calculations, such as fasteners, permanent joints, shafts and couplings, plain bearings, ball and roller bearings, belts and chains, gears, clutches and brakes, and springs; select machine parts for a particular machine function by use of manufacturers' catalogs, manuals, and periodicals; and complete a design project.
*Prerequisites: DFT 3314, MEC 3524, MEC 4405. (3-3) 4

***MEC 4403 Engineering Materials:** Upon completion of this course, students should be able to enumerate basic manufacturing processes and define physical and mechanical properties of materials; perform and evaluate standard tests such as tensile, impact, hardness, etc.; discuss the structure of metals, characteristics of metals, the effect of heat treating on ferrous metals; describe the production and properties of ferrous and non-ferrous metals; explain the various heat treatment processes, the equipment used, and perform simple heat treatment processes; describe the properties of thermo-setting and thermoplastic polymers and ceramic and composite materials; and discuss material selection on the basic of specific properties.
*Prerequisites: MAT 3507, ENG 3405. (3-3) 4

***MEC 4404 Tool and Die Design:** Upon completion of this course, a study of the knowledge and skills needed for the design of tools, fixtures, and dies, students should be able to perform engineering calculations to determine cutting force, stripping forces, clearanced, work and cycle time; design and draw jigs and fixtures; design piercing and blanking dies; design bending and forming dies; and complete a design project.
*Prerequisites: DFT 3314, MEC 3524. (2-6) 4

***MEC 4405 Mechanisms:** Upon completion of this course, students should be able to solve and check, by graphical and

analytical methods, problems concerning the motion of machine elements, including the displacement velocity and acceleration of points and lines within these elements; and design mechanisms using cams, belts, pulleys, gears, and linkages.
*Prerequisites: DFT 3314, MEC 4508, PHY 1405. (3-3) 4

***MEC 4425 Thermodymanics:** Upon completion of this course, students should be able to explain the basic laws of thermodynamics; define the technical terms used in thermodynamics; write in both word and algebraic form the general energy equations; use these equations for solving typical problems; work typical problems using both the British Gravitational and International systems of measurements.
*Prerequisites: PHY 1405, MAT 3508. (3-3) 4

***MEC 4434 Hydraulics and Pneumatics:** Upon completion of this course, students should be able to perform certain computations related to hydrostatics, hydrodynamics, and the general gas law; draw hydraulic symbols; make sketches of and explain how the following hydraulic and pneumatic system components work: fluid power pumps and motors, hydraulic cylinders and rams, fluid reservoirs, plumbing and related components, pressure, flow and directional control valves; and design and troubleshoot simple hydraulic circuits.
*Prerequisite: PHY 1405, MAT 3508, or Program Director approval. (3-3) 4

***MEC 4508 Applied Mechanics:** Upon completion of this course, students should be able to solve problems pertaining to force systems; calculate the location of centroids and centers of gravity; draw free-body diagrams; analyze forces in simple trusses and frames; calculate friction; compute the moment of inertia of areas and bodies; construct shear and moment diagrams; solve problems related to the kinetics of particles and rigid bodies; apply the laws of force and motion; and perform calculations related to work energy and power.
*Prerequisites: PHY 1405, MAT 3508. (3-6) 5

MEC 5214 Applied Metallurgy I: Upon completion of this course, students should be able to describe the production of iron and steel; discuss the major forming methods; explain the crystalline nature of metals; discuss basic testing procedures; describe the method and use of heat treating; perform hardness and tensile tests; and produce a metallographic sample.
Note: Does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students, see MEC 4403. (1-3) 2

MEC 5215 Applied Metallurgy II: Upon completion of this course, students should be able to describe the method of classifying steel; discuss the properties and use of cast irons; explain the importance of metallurgy on welding; describe the production and use of powdered metal and nonferrous metals; perform simple heat treatments on plain carbon steel; and identify unmarked materials.
Note: Does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students, see MEC 4403.
*Prerequisite: MEC 5214. (1-3) 2

Mechanical Drafting – See DFT

MED – Medical Assisting

***MED 3200 Health Insurance:** Upon completion of this course, students should be able to discuss the responsibilities of a medical office insurance specialist; identify the types of insurance and assistance programs that pay for health care services; process medical insurance claim forms; and identify standard coding methods.
*Prerequisite: MED 3304, SEC 3404, or Departmental approval. (2-0-0) 2

***MED 3300 Drug Therapy:** Upon completion of this course, students should be able to identify major drugs and/or drug groups; recognize side effects; describe interaction of drugs; and relate various methods of administration of drugs to reaction.
*Prerequisite: Fifth quarter standing or Departmental approval. (3-0-0) 3

MED 3302 Medical Lab Fundamentals: Upon completion of this course, students should be able to identify and explain medical aseptic practices; relate diagnostic and therapeutic procedures to basic body functions and correlate these procedures for assisting with a physical examination to normal body tissues; and use the correct medical terminology in order to communicate with the health care team. (2-2-0) 3

***MED 3303 Clinical Lab I:** Upon completion of this course, students should be able to maintain a physician's office in regard to housekeeping and maintenance; carry out medical and surgical asepsis, and list procedures and situations in which each is applied; demonstrate correct procedures for assisting the physician with physical examinations; describe the legal standards for drug administration and calculate dosages; and demonstrate a working knowledge of basic nutrition.
*Prerequisites: MED 3302, MED 3304. (2-2-0) 3

MED 3304 Medical Terminology and Vocabulary I: Upon completion of this course, students should be able to read and understand medical terms; build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; spell medical terms correctly; use a medical dictionary; and use appropriate abbreviations and symbols. (3-0-0) 3

***MED 3305 Medical Terminology and Vocabulary II:** Upon completion of this course, students should be able to pronounce and spell correctly certain medical terms; define medical terms as they pertain to anatomy, physiology, and diseases, operations, tumors, drugs, and related descriptive terms; and demonstrate ability to build medical words and analyze word components. The above objectives will apply to the following systems: skin, musculoskeletal, cardiovascular, blood and blood forming organs, respiratory, systemic diseases and oncology.
*Prerequisite: MED 3304. (3-0-0) 3

***MED 3306 Medical Terminology and Vocabulary III:** A continuation of MED 3305 with objectives applying to the following systems: neurological and psychiatric, urogenital, gynecological and obstetrics, endocrine, sense, and digestive.
*Prerequisite: MED 3304. (3-0-0) 3

***MED 3307 Symptomatology:** Upon completion of this course, students should be able to assess signs and symptoms

of disease and take appropriate action when dealing with patients in a medical facility. Problem-solving techniques will be utilized.
*Prerequisite: Fifth quarter standing or Departmental approval. (3-0-0) 3

***MED 3315 Medical Office Administration:** Upon completion of this course, students should be able to demonstrate skills in effective telephone technique; receive patients; arrange appointments; maintain accurate patient records; handle mail; manage all office records; process written communications; make travel arrangements; perform editorial duties, and describe supervisory skills needed in a medical office.
*Prerequisites: MED 3304, MED 3404, SEC 3404. (3-0-0) 3

***MED 3404 Medical Economics:** Upon completion of this course, students should be able to keep a single entry set of books; maintain peg board; maintain a checking account; follow an efficient billing schedule; compose effective collection letters; apply rules for telephone requests for payment; handle special collection problems; explain medical fees, and assist patient in planning financing of medical care.
*Prerequisite: Pre-entrance testing. (4-0-0) 4

MED 4302 Medical Ethics and Law: Upon completion of this course, students should be able to describe the laws that govern the practice of medicine; differentiate between the various medical practice arrangements and their legal implications; describe each medical service available to the public in the community and the way each contributes to comprehensive care; explain the meaning of the A.M.A. principles of Medical Ethics and discuss how each applies to the physician and the staff; and list the Supreme Court decisions in which the Medical profession is directly involved. (3-0-0) 3

***MED 5104 Professional and Vocational Responsibilities of the Medical Assistant:** Upon completion of this course, students will have begun to explore the personal and vocational responsibilities of a practitioner in the field of medical assisting. A discussion of the problems encountered during the practicum and solutions which may be applied will be shared.
*Prerequisite: Fourth quarter standing; Corequisites: MED 5707, MED 5315, HRC 5302. (1-0-0) 1

***MED 5204 Orientation to Health Careers:** Upon completion of this course, students should be able to identify the important historical contributions to modern medicine; explore major allied health professions and the personal/professional requirements of each; and develop skills in psychological assessment of both self and patients.
*Prerequisite: Pre-entrance testing or Departmental consent. (2-0-0) 2

***MED 5315 Advanced Medical Office Procedures:** Upon completion of this course, students should be able to assist the physician and explain the preparation of the patient who is to have such advanced diagnostic procedures as chemotherapy, radiation and nuclear medicine; demonstrate correct methods of administering medication, restraining methods, growth patterns and collection of specimens for the pediatric patient; and administer CPR.
*Prerequisites: Fourth quarter standing; Corequisites: HRC 5302, MED 5104, MED 5707. (3-0-0) 3

***MED 5400 Clinical Education A:** This course will involve the identification of a project in a prearranged medical agency and the collection and analysis of data and the presentation of findings. Students must obtain prior approval from the instructor.
*Prerequisite: Seventh quarter standing. (2-0-6) 4

***MED 5503 Clinical Lab II:** Upon completion of this course, students should be able to identify all equipment and supplies and establish a method of inventory; select, assemble, and prepare sterile supplies and equipment needed to assist in surgical procedures using aseptic technique; take blood pressure using palpation and auscultation methods; demonstrate eye and ear irrigations and instillations; prepare and administer medications safely and accurately; demonstrate recording and mounting of electrocardiogram; and demonstrate professionalism by dependability, responsibility, and initiative.
*Prerequisite: Completion of first two quarters; Corequisite: MED 5614. (2-6-0) 5

***MED 5614 Laboratory Procedures:** Upon completion of this course, students should be able to cite the laboratory rules of safety; handle the equipment and reagents in a safe, responsible manner; identify the equipment, glassware, and supplies by sight and use; and demonstrate the basic knowledge of the simple laboratory tests done in a physician's office by performing the test with accuracy, speed, personal integrity and complete honesty.
*Prerequisite: Completion of first two quarters; Corequisite: MED 5503. (3-6-0) 6

***MED 5707 Medical Office Practice:** This course is a practicum in Medical Assisting. Each student is assigned to a physician's office, clinic, or out-patient Department. Upon completion of this course, students should be able to perform the duties of the medical assistant as they apply to the assigned office; demonstrate professional and communication skills necessary for the effective care of the patient; and express an understanding of the practice of comprehensive health care in the community.
*Prerequisite: Completion of first three quarters; Corequisites: MED 5104, MED 5315, HRC 5302. (0-0-21) 7

MET – Medical Transcription

***MET 3204 Medical Transcriptionist as A Professional:** Upon completion of this course, students should be able to identify problems that may arise when working as a Medical Transcriptionist; suggest ways to solve these problems in a manner in keeping with the professional worker; and express increased knowledge of basic procedures and understanding of the medical practice gained by reviewing and sharing experiences and oral reports.
*Prerequisite: Fourth quarter standing; Corequisite: MET 3505, MET 3406. (2-0-0) 2

***MET 3400 Introduction to Medical Transcription:** In this course, students will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course, they should be able to transcribe given medical material accurately.
*Prerequisites: MED 3304, SEC 3404, MED 3302 or BIO 1504, BIO 1505. (2-4-0) 2

***MET 3406 Transcription Practice II:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of this course, students should be able to operate transcription equipment efficiently; demonstrate competency in transcribing medical reports; establish positive rapport with co-workers; and utilize and organize time to best advantage.
*Prerequisite: Fourth quarter standing; Corequisites: MET 3204, MET 3505. (0-0-12) 4

***MET 3505 Transcription Practice I:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of this course, students should be able to operate transcription equipment efficiently; demonstrate competency in transcribing medical reports; establish positive rapport with co-workers; and utilize and organize time to best advantage.
*Prerequisite: Fourth quarter standing; Corequisites: MET 3204, MET 3406. (1-0-12) 5

***MET 3904 Transcription:** Upon completion of this course, students should be able to demonstrate operation of dictating machines correctly and efficiently; given practical situations, identify ethical and legal aspects of medical transcription; given worksheets, demonstrate competency in the use of dictionaries, PDR, and other references; transcribe medical reports and correspondence from a cassette, record, or belt into a final typed mailable and permanent form in an assigned length of time; given discussion and medical terms, relate the disease process with diagnostic and therapeutic procedures and with the anatomical parts involved; and given transcribed medical reports, read and explain the content of the report.
*Prerequisite: Third quarter standing. (4-10-0) 9

MGT – Management/Business Administration

MGT 2314 Principles of Management: This is an introductory course in business management principles. Upon completion of this course, students should be able to describe the functions of managers, define management planning; recognize sound business objectives; illustrate organizational charts; design a staffing program; explain and apply leadership and decision-making to business cases; and identify control measures useful to business operations. (3-0) 3

MGT 3303 Small Business Management: This is a course designed for those who may want to start and operate their own business, as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills through development of a small business plan. Upon completion of this course, students should be able to assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; and explain the techniques and principles of planning, organizing, directing, and controlling the operating venture. (3-0) 3

MGT 3331 Preparing Women as Managers: This course examines in depth the role of women as business managers. Upon completion of the course, students should be able to recognize basic management functions; demonstrate an understanding of socialization and its effects on women in management; demonstrate decision-making abilities; implement listening, verbal and non-verbal communication techniques; apply time management skills; handle workplace conflict; project a professional image; select an appropriate leadership style for varying situations; delineate current EEO laws affecting women in business, and employ specific career strategies toward career goal attainment. (3-0) 3

MGT 4322 Purchasing: Upon completion of this course, students should be able to define the purchasing function; describe purchasing's role in business; recognize the importance of quality assurance; explain the role purchasing plays in deciding to make or buy; discuss its relationships to other company Departments; describe the importance of planning and forecasting; interpret the ethics of purchasing; develop the legal aspects of purchasing; explain the need for evaluating purchasing; describe EDP's usefulness in purchasing; detail the development of both the organization and personnel for purchasing; conduct purchasing computer simulation; and apply purchasing formulas and methods for cost analysis. (3-0) 3

MGT 4323 Advanced Purchasing Management: Upon completion of this course, students will understand purchasing on the executive level, including budgeting, use of decision trees, make or buy, procurement, personnel management, and value analysis. This course will enable students to understand on a professional level the entire purchasing profession. Students will participate in the CPM examination review. (3-0) 3

MGT 4330 Supervision: This is an introductory course in application of management principles and concepts to first-line supervisory positions. Upon completion of this course, students should be able to identify the position of the supervisor in the management structure; discuss the unique interpersonal relations required of the supervisor; identify manpower management techniques; explain the concept of job analysis and evaluation; describe supervisory leadership techniques for various job groups; and evaluate the supervisor' s role in labor relations. (3-0) 3

MGT 4331 Administrative Office Management: This is a course applying the principles and techniques of management to the flow of information within an enterprise. Upon completion of this course, students should be able to explain the application of the principles of management to the office organization; problem solving; communications in the office; space management; ergonomics in the design and layout of an office; equipping the office; the lease-buy decision; and health hazards in the office environment. (3-0) 3

MGT 4332 Human Resources Management I: An introductory course in the field of human resources management. Upon completion of this course, students should be able to describe the application of management principles to human resources; describe the history of personnel management; list and describe sources used in internal and external recruiting; design a personnel selection procedure; formulate employee and management development plans; and identify systems used for employee performance evaluation. (3-0) 3

***MGT 4333 Introduction to Industrial Management:** A course providing a survey of the planning, function, and control of the production process in manufacturing organization.

Upon completion of this course, students should be able to recognize and explain the underlying principles of industrial management; identify and illustrate the planning concepts used in a production system; demonstrate the scheduling of machine and personnel assets; explain the process of inventory control; and outline the procedures used in quality control.
*Prerequisites MGT 2314, BUS 3304. (3-0) 3

***MGT 4334 Management Seminar:** This is a course which expands the knowledge of principles and techniques acquired in Principles of Management, and relates that knowledge to practical situations concerning the development of management strategy and policy through the techniques of lectures, case studies, and critical incident analysis. Upon completion of this course, students should be able to demonstrate improved deductive and decision-making capabilities through use of the case method and be able to develop practical management strategies and policies to aid in organization-wide problem solving.
*Prerequisite: MGT 2314. (3-0) 3

MGT 4335 Production Planning and Control: This is a course in the application of management planning and control techniques to the production process. Upon completion of this course, students will be able to explain important concepts and implement procedures for master planning, capacity planning, inventory management and control, and scheduling and controlling of operations. Simulation using MAPICS software will be used to provide practical experience in these topics. (3-0) 3

***MGT 4337 Human Resources Management II:** This is a course providing a continuation of the study of basic personnel management practices. Upon completion of this course, students should be able to define the factors in organizational climate; identify the channels of management communications; review the concept of managerial leadership; interpret the importance of labor relations in human resources management; design a basic wage and salary plan; outline a basic security and benefit system; and identify the role played by EEO, safety and health, and financial incentive plans in personnel management.
*Prerequisite: MGT 4332. (3-0) 3

***MGT 4338 Labor-Management Relations:** This is a course which examines the basic principles and strategies used in labor-management relations. Upon completion of this course, students should be able to recognize the rights and responsibilities of both labor and management, describe the negotiation and administration of a labor agreement; identify various labor outcomes such as discipline, labor security, minority rights, technological changes and wage/benefit issues; apply the labor relations process to governmental personnel matters; and identify the differences between public and private personnel procedures. Students having prior work experience in management may substitute their experience for the prerequisites with consent of Department Head.
*Prerequisites: MGT 4332, MGT 4337, or consent of Department Head. (3-0) 3

MGT 4356 Introduction to Materials Management: This course will outline the material management cycle. Upon completion of the course, students will be able to explain the various materials management structures and organizations. They will understand how to function in the various business environments where materials management is applicable, and will be able to define the terms of materials management and the interrelationships of the various disciplines within the field of materials management. (3-0) 3

MGT 4357 Compensation Management: This is an advanced course in human resources management. Upon completion of the course, students will be able to demonstrate functional knowledge of the reward system, compensation legislation, job content and analysis, job evaluation, pay structures, merit pay, short-and long-term incentives, benefits, and services. (3-0) 3

***MGT 4361 Advanced Administrative Office Management:** This course will expand a student's knowledge of ergonomics in space management, layout and design of an office, and selection of furniture. Upon completion of the course, students should be able to recognize and explain word processing systems; describe reprographic and micrographic records management and telecommunications in the administrative services function; apply management principles to administrative office systems; and analyze decisions necessary in office automation, office productivity, and budgetary control.
*Prerequisite: MGT 4331. (3-0) 3

MKT – Marketing and Retailing

MKT 1304 Marketing I: This course is the first of a two-part study of Marketing. Upon completion, students should be able to explain the importance of marketing in our economic system; explain the marketing concept and the impact of environmental and technological factors on this concept; describe buyer behavior from economic, psychological, and social points of view; identify and classify marketing activities; distinguish among the various marketing research methods; classify products; and explain product pricing and distribution strategies and their relation to the marketing process. (3-0) 3

***MKT 1305 Marketing II:** Upon completion of this course, students should be able to explain promotion, pricing, and distribution, and their place in the marketing process; recognize the place of marketing in current society and discuss contemporary issues; explain the growth in and importance of international marketing, as well as the significance of the balance of payments; explain a fully integrated marketing program; explain the significance of the computer as a tool in the marketing process; and recognize career opportunities in marketing.
*Prerequisite: MKT 1304. (3-0) 3

***MKT 3204 Cooperative Education I:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: Permission of Department and Co-op Office. (0-20) 2

***MKT 3205 Cooperative Education II:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in the occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: MKT 3204. (0-20) 2

***MKT 3206 Cooperative Education III:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as a full-time employee.
*Prerequisite: MKT 3205. (0-20) 2

MKT 3320 Fundamentals of Selling: This course is designed to provide students with a general survey of the various careers in selling, along with a thorough study of the selling process from preparation to closing of the sale. Upon completing this course, students should be able to collect proper data and prepare for a sales interview; conduct a successful sales interview including the approach, presentation, demonstration, meeting objections, and closing; and instill confidence and trust in the prospect by exhibiting confidence as a result of proper preparation. (3-0) 3

***MKT 4305 Advanced Selling Skills:** This course is a follow-up course for MKT 3320 and teaches alternative selling skills. Upon completion, students should be able to develop strategic selling knowledge; plan methodically for a sale; focus on a dominate sales theme; use the trail development plan; use persuasive strategies; apply decision theories to buyer behavior; apply various prospecting methods; use planning aids; use alternative approaches; set objectives for a presentation; use visual devices in a presentation; understand the psychology of objections; customize a close; and apply acceptable business ethics to sales situations.
*Prerequisite: MKT 3320. (3-0) 3

MKT 4320 Retailing: Upon completion of this course, students should be able to differentiate between various types retailers; evaluate franchises, including the contract, possible locations, and potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale; and explain credit and collection procedures; (3-0) 3

MKT 4321 Advertising: This course is designed to instruct in the use of advertising as a marketing tool. Upon completion, students should be able to develop an advertising plan based on marketing objectives for a specific product or service. This course excludes the implementation of creative strategies. (3-0) 3

***MKT 4325 Sales Management**: Upon completion of this course, students should be able to explain the organization and functions of territorial, district, regional, and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; and make sales forecasts.
*Prerequisite: MKT 3320 or instructor permission. (3-0) 3

MKT 4340 Merchandising: Upon completion of this course, students should be able to describe the buying function and its relationship to other functional activities in the business; describe the similarities and differences of the buyer's responsibilities in departmentalized stores, centralized chain offices, and resident buying offices; identify the staff departments that service and support selling and sales promotion activities; identify the merchandising techniques and information sources that are used in determining what and how much to buy; and identify criteria used in the selection of resources. (3-0) 3

***MKT 4354 Visual Merchandising:** Upon completion of this course, students should be able to discuss the importance of display design as a visual merchandising medium and its use as a sales supporting activity; understand the basic principles and elements of design that are applicable to display design; differentiate between different types of displays, display organization, policies and procedures; discuss the display and design person's responsibilities and interrelationships with various departments; and apply the physical elements of display compositions and arrangements.
*Prerequisite: MKT 4320. (3-0) 3

MKT 4384 Customer Service: Upon completion of this course, students should be able to explain the importance of customer relations in business; know how to plan for the customer through physical store layout, stock, and special services; plan the advertising for a store; and explain consumerism and its effect on various levels of employees. (3-0) 3

MKT 4385 Service Marketing: Upon completion of this course, students should be familiar with the shift in our economy to the marketing of services and intangible products. Specific topics of this course include: profitability in the service organization, communications, pricing, marketing the service organization, and the design of the service product including the operation, environment, and personnel. (3-0) 3

MKT 4386 Marketing Research: Upon completion of this course, students should understand the role of marketing research, the stages of the research process, research designs for collecting primary data, measurement concepts, sampling and fieldwork, and data analysis and interpretation. Students will conduct a marketing research project utilizing a computerized database. (3-0) 3

MKT 4387 Public Relations: Upon completion of this course, students should understand the basic concept and history of public relations; public responsibility and professionalism in public relations; the principles of public relations

management including defining and choosing goals and objectives, as well as budgeting for public relations; and legal constraints in public relations. In addition, students will study media, employee, community, and government relations dealing with consumers, environmentalists, minorities, and lobbying. Students will complete a public relations campaign. (3-0) 3

MRT – Medical Record Technology

MRT 3201 Orientation to Medical Record Technology: Upon completion of this course, students should be able to describe the duties and educational requirements of the major allied health professions; explain the functions of the major Departments of a hospital; trace the historical development of medicine, health care facilities, and medical records; describe the structure of the AHIMA, its history and categories of membership; define professionalism and discuss the characteristics and qualities of a professional; discuss new trends in health care delivery systems; identify common health care agencies and cite the purpose of each; describe the basic functions of a medical record Department; discuss career opportunities for the ART; discuss the purpose of inclusion of general college, related, and professional course material in the MRT curriculum; discuss the significance of CAHEA and SACS accreditation; and relate MRT course content to the Entry Level Competencies for Accredited Record Technicians. (2-0-0) 2

***MRT 3204 Directed Practice I:** This is the first in a series of three courses which provide supervised clinical learning experiences in local health care facilities. Students should be able to demonstrate competently the ability to communicate effectively with others; accept the personal responsibilities of promptness, personal neatness, and learning Departmental medical record procedures and practices; and apply the theory of medical record practices acquired in MRT 3300 and MRT 4312 by performing in accord with general hospital procedures.
*Prerequisites or corequisites: MRT 3300 and MRT 4312, or Departmental consent. (0-0-6) 2

MRT 3300 Medical Record Content and Maintenance: Upon completion of this course, students should be able to describe common methods for filing and numbering records; demonstrate the ability to retrieve and file records in common systems; describe and plan for record storage using common storage media; discuss common record control measures; describe the value, use and basic content of the medical record; identify and describe the content of basic medical record forms; perform assembly and quantitative analysis on medical records; describe standard incomplete record procedures and discuss the importance of timely record completion. (2-2-0) 3

***MRT 3301 Quality Assurance in Health Care Facilities:** Upon completion of this course, students should be able to state the purpose and philosophy of quality assurance activities in health care; discuss the impact of current health legislation on quality assurance; discuss the history and current status of quality assurance activities; describe the organization of the Peer Review Organization and discuss the relationship of hospital quality assurance workers to the PRO; describe the role of the risk manager and discuss the relationship between quality assurance and risk management; describe the physician credentialing process and discuss its role in quality assurance; relate JCAHO quality assurance standards to activities in the hospital in general and specifically as they concern medical records; and perform basic steps in completing a concurrent, problem-focused and retrospective audit.
*Prerequisites or corequisites: MRT 3300, MRT 4312, MRT 4315, or Departmental consent. (3-0-0) 3

***MRT 3302 Basic ICD-9-CM Coding:** Upon completion of this course, students should be able to discuss the evolution of ICD-9-CM; define the symbols, abbreviations and conventions used with ICD-9-CM; apply the coding principles of ICD-9-CM with 80% accuracy; and code and retrieve diagnoses and procedures proficiently.
*Prerequisites: BIO 1504, BIO 1505, MED 3306, or Departmental consent. (2-2-0) 3

***MRT 3303 Advanced Coding Concepts**: Upon completion of this course, students should be able to apply ICD-9-CM principles in coding medical records using manual and computerized coding methods; develop procedures for quality control of coding; discuss the methods for indexing diagnoses and operations; index diagnoses and operations in manual and computerized systems; discuss the prospective payment system and its relationship to coding practices; define terms related to the prospective payment system; determine the diagnostic-related group number for a given sample of medical records using manual and computerized methods; discuss case mix and its relationship to facility reimbursement under prospective payment; discuss the purpose of nomenclatures and classification systems; and apply the coding principles of a variety of nomenclatures and classification systems, identifying the health care facilities utilizing each of the systems.
*Prerequisite: MRT 4408 or Departmental consent (2-2-0) 3

***MRT 3414 Medical Record Statistics:** Upon completion of this course, students should be able to compute the various hospital statistics and prepare reports; define terms related to hospital statistics; discuss the procedures for completing vital records on birth, death, and reportable disease; discuss the sources and uses of health data; and demonstrate proficiency in the selection and construction of data displays.
*Prerequisite: MAT 1504 or Departmental consent. (3-2-0) 4

***MRT 3424 Principles of Disease:** Upon completion of this course, students should be able to classify disease processes according to their etiology and organ system involvement; and discuss the physical signs and symptoms, complications, and preferred treatment of specific disease processes.
*Prerequisites: BIO 1504, BIO 1505, MED 3306, or Departmental consent. (4-0-0) 4

MRT 4312 Legal Aspects of Medical Records: Upon completion of this course, students should be able to discuss the jurisdiction of the Federal and State courts; discuss the development of legislative and case laws as they relate to changes in social mores; describe the rules written by non-governmental bodies which affect medical records; describe the property rights and ownership of the medical record; discuss the medical record as a legal document; discuss content, authorization and release of medical information; describe statutes and hospital policies which govern the uses of medical records and the information contained in them; discuss the current health legislation which affects the medical record practitioner; and discuss the role of the AHIMA in monitoring and influencing legislation that affects health records (3-0-0) 3

***MRT 4315 Medical Record Standards and Regulations:** Upon completion of this course, students should be able to identify the major accrediting and licensing agencies and the purpose of each; discuss the role of the JCAHO in maintaining hospital standards; cite the medical record and quality assurance standards set forth under hospital licensing, Medicare/Medicaid and JCAHO; discuss the physician credentialing process and the role of the medical record practitioner in it; discuss the role of medical staff committees in meeting regulatory standards; and recognize basic standards for various hospital Departments.
*Prerequisite: MRT 3300 or Departmental consent. (3-0-0) 3

***MRT 4405 Medical Record Seminar:** Upon completion of this course, students should be able to discuss the various personal and vocational responsibilities of the medical record practitioner; analyze problems which are encountered as a medical record practitioner and discuss solutions; discuss various sources of information and assistance which are available to the practicing medical record professional; discuss the role of related medical record professionals such as Certified Tumor Registrars and Certified Coding Specialists; and demonstrate preparedness for the national accreditation examination.
*Prerequisite: Seventh quarter standing or Departmental consent. (4-0-0) 4

***MRT 4406 Directed Practice II:** Upon completion of this course, students should be able to demonstrate competent performance of medical record functions in hospital medical record Departments including compilation of statistical reports, coding for prospective payment, quality assurance, and utilization review; discuss work flow; prepare flow charts and work flow descriptions; prepare job descriptions and procedures; compare procedures performed in hospitals of various sizes; describe the professional roles of medical record technicians within a hospital; and demonstrate professional conduct.
*Prerequisite: Seventh quarter standing or Departmental consent. (0-0-12) 4

***MRT 4407 Directed Practice III:** Upon completion of this course, students should be able to demonstrate competent performance of medical record functions in various health care facilities, including mental health centers, group practice clinics, long-term care facilities, and others as available; describe and prepare flow charts and work flow descriptions in health care facilities; prepare job descriptions and procedures; compare procedures performed in hospitals to other health care facilities; and demonstrate professional conduct.
*Prerequisite: Seventh quarter standing or Departmental consent. (0-0-12) 4

***MRT 4408 Intermediate Coding:** Upon completion of this course, students should be able to apply the coding principles of ICD-9-C M with 85% accuracy; code and retrieve diagnoses and procedures proficiently; discuss the evolution of CPT coding; define the symbols, abbreviations and conventions used with CPT; apply the coding principles of CPT with 80% accuracy; and code and retrieve diagnoses and procedures proficiently.
*Prerequisite MRT 3302 or Departmental consent. (3-2-0) 4

Music, Applied (MUA)

Note: An audition must be performed before the Music faculty before a student is permitted to register for an applied music course. An extra fee is required for all Applied Music courses.

Cello: MUA 9112 (non-transferable), MUA 1114 (1 credit), MUA 1214 (2 credits), MUA 1314 (3 credits); Advanced Applied Music - MUA 21 14 (1 credit), MUA 2214 (2 credits), MUA 2314 (3 credits).
Clarinet: MUA 9112 (non-transferrable), MUA 1112 (1 credit), MUA 1212 (2 credits), MUA 1312 (3 credits); Advanced Applied Music - MUA 2112 (1 credit), MUA 2212 (2 credits), MUA 2312 (3 credits).
Flute: MUA 9108 (non-transferrable), MUA 1108 (1 credit), MUA 1208 (2 credits), MUA 1308 (3 credits); Advanced Applied Music - MUA 2 108 (1 credit), MUA 2208 (2 credits), MUA 2308 (3 credits).
Guitar: MUA 9106 (non-transferrable), MUA 1106 (1 credit), MUA 1206 (2 credits), MUA 1306 (3 credits); Advanced Applied Music - MUA 2106 (1 credit), MUA 2206 (2 credits), MUA 2306 (3 credits).
Harp: MUA 9104 (non-transferrable), MUA 1104 (1 credit), MUA 1204 (2 credit), MUA 1304 (3 credits); Advanced Applied Music - MUA 2104 (1 credit), MUA 2204 (2 credits), MUA 2205 (3 credits).
Harpsicord: MUA 9103 (non-transferrable), MUA 1103 (1 credit), MUA 1203 (2 credits), MUA 1303 (3 credits); Advanced Applied Music - MUA 2103 (1 credit), MUA 2203 (2 credits), MUA 2303 (3 credits).
Organ: MUA 9101 (non-transferrable), MUA 1101 (1 credit), MUA 1201 (2 credits), MUA 1301 (3 credits); Advanced Applied Music - MUA 2102 (1 credit), MUA 2201 (2 credits), MUA 2301 (3 credits) .
Percussion: MUA 9107 (non-transferrable), MUA 1107 (1 credit), MUA 1207 (2 credits), MUA 1307 (3 credits); Advanced Applied Music - MUA 2107 (1 credit), MUA 2207 (2 credits), MUA 2307 (3 credits) .
Piano: MUA 9100 (non-transferrable), MUA 1100 (1 credit), MUA 1200 (2 credits), MUA 1300 (3 credits); Advanced Applied Music - MUA 2100 (1 credit), MUA 2200 (2 credits), MUA 2300 (3 credits).
Saxophone: MUA 9113 (non-transferrable), MUA 1113 (1 credit), MUA 1213 (2 credits), MUA 1313 (3 credits); Advanced Applied Music - M UA 2113 (1 credit), MUA 2213 (2 credits), MUA 2313 (3 credits).
String Bass: MUA 9111 (non-transferrable), MUA 1111 (1 credit), MUA 1211 (2 credits), MUA 1311 (3 credits); Advanced Applied Music -MUA 2111 (1 credit), MUA 2211 (2 credits), MUA 2311 (3 credits).
Trombone: MUA 9110 (non-transferrable), MUA 1110 (1 credit), MUA 1210 (2 credits), MUA 1310 (3 credits); Advanced Applied Music - MUA 2110 (1 credit), MUA 2210 (2 credits), MUA 2310 (3 credits).
Trumpet: MUA 9109 (non-transferrable), MUA 1109 (1 credit), MUA 1209 (2 credits), MUA 1309 (3 credits); Advanced Applied Music - MUA 2109 (1 credit), MUA 2209 (2 credits), MUA 2309 (3 credits).
Violin: MUA 9105 (non-transferrable), MUA 1105 (1 credit), MUA 1205 (2 credits), MUA 1305 (3 credits); Advanced Applied Music - MUA 2l01 (1 credit), MUA 2205 (2 credits), MUA 2305 (3 credits).

Voice: MUA 9102 (non-transferrable), MUA 1102 (1 credit), MUA 1202 (2 credits), MUA 1302 (3 credits); Advanced Applied Music - MUA 2102 (1 credit), MUA 2202 (2 credits), MUA 2302 (3 credits) .

MUS – Music

MUS 1100 Vocal Ensemble: This performing laboratory will prepare students for public performance at the end of the quarter. Emphasis is upon sight-singing, demonstration, and use of proper vocal techniques, tonal production, and ensemble performance. Each student will be given the opportunity to perform representative compositions from the major periods in music. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

***MUS 1102 Jazz Vocal:** Upon completion of this course, students should be able to sing solos in the style of Ella Fitzgerald, Sarah Vaughn, Jack Jores, Frank Sinatra, etc; and demonstrate some skills in scat singing and modern 4-part harmony. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: Ability to read music, along with reasonable relative pitch. (0-3) 1

MUS 1104 Class Voice I: Upon completion of this course, students should be able to demonstrate correct posture, breathing, and support for the resonation of vowels, proper diction; and perform selected pieces for song literature. (0-2) 1

MUS 1105 Class Voice II: Upon completion of this course, students should be able to perform from memory in recital an art song, aria, and other songs demonstrating an understanding of acceptable performance standards, musical styles, translations, and the use of the International Phonetic Alphabet. (0-2) 1

MUS 1107 Chamber Choir: This is a practical performing class designed to acquaint students with various styles of choral music which may culminate in a public performance. The program may vary each quarter depending upon vocal abilities and size and balance of the choir. Emphasis is placed upon correct tonal production, proper vocal techniques, sight-reading, ensemble performance, and repertoire. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1117 Wind Ensemble: This is an organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods, and styles. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1122 Fiddle—Blue Grass and Old-Time: Upon completion of this course, students should be able to tune and maintain their instruments; demonstrate a working knowledge of chords; play a minimum of ten songs; accompany other musicians; demonstrate the ability to read music. (0-3) 1

***MUS 1123 Jazz Ensemble:** Upon completion of this course, students should be able to demonstrate, through performance, a better understanding of the styles of Big Band Jazz and the skills essential to participate in ensemble playing. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: An advanced knowledge of one's instrument and audition. (0-3) 1

MUS 1127 Orchestra: This is an organization designed to provide continuing performance opportunity for students who have already developed some skills on an orchestral instrument. Emphasis will be placed on further development of each student's playing ability and an acquaintance with orchestral literature. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1128 Concert Band: This is an organization designed to provide performance opportunity for students who have already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as acquaintance with band literature. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1132 Introduction to Sight-Singing and Ear Training: This is a class designed to acquaint students with the principles of solfege and pitch organization, rhythmic patterns, and basic harmonic progression. Upon completion of this course, they should be able to recognize and transcribe intervals, diatonic melodies, simple rhythms, and basic chord progressions. (0-2) 1

MUS 1133 Banjo—Old-Time Music: Upon completion of this course, students should be able to tune the banjo in G, C, and C minor; use a capo for additional tunings; demonstrate the basic chord position in the three main tunings; play with a rhythmic clawhammer style including the drop thumb technique; coordinate left and right hands without difficulty; play selected tunes in the text from memory; demonstrate the ability to read tablature from the text. (0-3) 1

MUS 1136 Clawhammer Banjo II: Upon completion of this course, students should be able to play at least five tunings comfortably with the use of a capo; play the most common fingering patterns in each tuning; play traditional tunes up to tempo; play selected tunes from memory; demonstrate the ability to write simple tablature. (0-3) 1

MUS 1139 Old-Time Music "Jam": Upon completion of this course, students should be able to participate actively as a performer in an old time music "jam"; demonstrate skills in performing, both vocally and on instruments of their choice; demonstrate poise and skill in leading the class in specific music; demonstrate an acquaintance with several kinds of "traditional" music. (0-3) 1

***MUS 1151 Improv Rhythm and Instrumental—Beginning:** Upon completion of this course, students should be able to demonstrate a better understanding of all forms of jazz styles such as Swing, Fusion, Ballads, Latin (Bossa Novas, etc.), and Rock. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: The equivalent of a high school education or Departmental consent. (0-3) 1

***MUS 1152 Improv Rhythm Section—Intermediate:** Upon completion of this course, students should be able to

demonstrate through performance the ability to compete with most rhythm section players on a professional level with such musical presentations as Swing, Fusion, Ballads, Latin (Bossa Novas, etc.), and Rock. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: MUS 1151 or equivalent. (0-3) 1

***MUS 1153 Improv Instrumental—Intermediate:** Upon completion of this course, students should be able to demonstrate in performance the ability to read and interpret jazz chords; to play 12 bar blues in standard keys; to analyze II, V7, I chord progressions in all keys; to play in all jazz forms, i.e., Swing, Rock and Fusion; to play rhythm changes in standard keys; to play a ballad with proper inflection and interpretation. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: MUS 1151 or equivalent (0-3) 1

MUS 1154 Class Piano I: This is a course for beginning students taught through group instruction in an electronic piano laboratory setting. Upon completing the course, students should be able to demonstrate rudimentary mastery of music reading as required for simple two-hand compositions in keys of C and G; show technical development and theoretical understanding by playing the chromatic scale, major pentachords beginning on white keys, and the chord progression I - IV - V7 in keys of C and G. Students provide their own headsets. (0-3) 1

MUS 1155 Class Piano II: This is a continuation of MUS 1154 in which students will demonstrate increased mastery of music reading, technical proficiency, and theoretical understanding as illustrated in their ability to play somewhat more advanced literature, as well as all major pentachords chromatically, major tetrachord scales in sharp keys, and scales using traditional fingerings in keys of C and G followed by the chord progression I - IV - V 7. Students provide their own headsets. (0-3) 1

MUS 1156 Class Piano III: This is a continuation of MUS 1155 in which students will demonstrate the ability to read and play more advanced literature and scales and chords in the keys of C, G, F, A minor, and D minor, flat tetrachord scales and minor pentachords, as well as show some mastery of the damper pedal. Students provide their own headsets. (0-3) 1

MUS 1157 Intermediate Piano I: Upon completion of this course, students should have developed skills in reading, technique, theory, and musicianship needed to play a number of pieces selected from standard piano literature. Students will need to provide their own headsets. (0-3) 1

MUS 1158 Intermediate Piano II: Upon completion of this course, students should have developed skills in reading, technique, theory, and musicianship needed to play more complex pieces selected from standard piano literature. Students provide their own headsets. (0-3) 1

MUS 1160 Classical and Flamenco Guitar: Upon completion of this course, students should be able to read guitar music, play major and minor chords, some seventh chords, and perform selected solos by Bach, Beethoven, Torego, Aguado, and Lori. They should also be able to perform right- and left-hand classical technique Carcassi studies and right-hand studies in the tremolo technique and flamenco strums and rasguados. (0-3) 1

MUS 1164 Guitar: Upon completion of this course, students should be able to read guitar music in the first position; perform a selected number of guitar solos, sing note passages, and duets. They should also be able to play chords in the first position and be able to transpose to other selected keys. (0-3) 1

MUS 1165 Intermediate Guitar: Upon completion of this course, students should be able to read blocked and arpeggiated chords; demonstrate ability to play both a melody and accompanying arpeggio pattern; perform a selected number of etudes; arrange for solo guitar a song (or songs) to include melody with accompaniments; demonstrate increased ability to read single line. (0-3) 1

MUS 1166 Folk Music Guitar I: Upon completion of this course, students should be able to play a select number of basic chords; use different strumming techniques; play simple accompaniments of folk songs for singers; read simple folk music for guitar; and demonstrate a general knowledge about the instrument and its historical development. (0-3) 1

MUS 1167 Folk Music Guitar II: Upon completion of this course, students should be comfortable with their instruments and be able to join in informal "jam" sessions with other folk musicians using basic chords and notes. They should be able to play at an intermediate level and will have accumulated a sizeable collection of traditional folk music. (0-3) 1

MUS 1171 Chords I: Upon completion of this course, students should be able to translate standard chord symbols into notes and play them on the keyboard; supply the proper symbol for any given chord; and reharmonize simple tunes and reduce them to lead sheets. (0-2) 1

MUS 1172 Chords II: Upon completion of this course, students should be able to interpret and play most standard lead sheets; reharmonize given melodies both in writing and on the keyboard; and transpose to any given key. (0-2) 1

MUS 1177 Appalachian Dulcimer: Upon completion of this course, students should be able to tune and properly maintain the Appalachian Dulcimer; demonstrate the ability to hold the dulcimer and to change chords by fretting all strings properly; demonstrate an understanding of rhythm, meter, and pitch; demonstrate skills in playing, strumming, flat-picking and finger-picking; demonstrate the ability to play from tablature and "by ear;" and demonstrate the ability to play simple melodies. (0-3) 1

MUS 1189 Autoharp: Upon completion of this course, students should be able to tune and properly maintain the autoharp; demonstrate the ability to hold the autoharp properly and to change chords with facility; demonstrate an understanding of rhythm, meter, pitch; demonstrate skills in playing, strumming, and picking patterns; demonstrate ability to play with music and "by ear"; and demonstrate skills necessary for basic melody picking. (0-3) 1

MUS 1304 Children's Music I: Upon completion of this course, students should be able to plan a music program for

young children (ages infant to 10 years); display a working knowledge of the fundamentals of music; play autoharp, rhythm band, and Orff instruments; and develop a resource file of methods and materials. (3-0) 3

*MUS 1305 **Children's Music II:** This is a continuation of MUS 1304. In addition, students should become familiar with children's song literature, recordings, and basic trends in music education. Each student will be responsible for making observations of various music programs in the community.
*Prerequisite: MUS 1304. (3-0) 3

MUS 1310 Introduction to Music Theory: This is a beginning or refresher course for students with little or no keyboard background, and prepares students for Music Theory I. Included are the fundamentals of music theory, notation, basic rhythmic patterns, major scales, intervals, and basic chord structure. Upon completion of this course, students should be able to demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3

MUS 1314 Music Appreciation I: Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form and music from the Middle Ages, Renaissance, and Baroque periods. This perspective should enable each student to be an informed listener. (3-0) 3

*MUS 1315 **Music Appreciation II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the classical, romantic, and contemporary periods.
*Prerequisite: MUS 1314. (3-0) 3

MUS 1320 Music for Dancers I: Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form and music from the Middle Ages, Renaissance, and Baroque periods. This perspective should enable each student to be an informed listener. (3-0) 3

*MUS 1321 **Music for Dancers II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the classical, romantic and contemporary periods.
*Prerequisite: MUS 1320. (3-0) 3

MUS 1324 Recording Studio Techniques I: Students will be introduced to the recording studio from an artistic and operational point of view; the operation and function of audio consoles, microphones, multi-track recorders, echo chambers; and their relationship to the musician, sound engineer, and producer. (3-0) 3

*MUS 1325 **Recording Studio Techniques II:** This course is a continuation of MUS 1324 with observation of multi-track recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers, and back-up voices while the instructor directs their use of studio equipment.
*Prerequisite: MUS 1324. (0-6) 3

*MUS 1326 **Recording Studio Techniques III:** This is the last in a series of three courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby the student is given the opportunity to create and produce music, operate the console and tape recorders, and exhibit creativity in phases that hold the most interest.
*Prerequisite: MUS 1325. (0-6) 3

MUS 1327 Recording Studio Techniques IV: (Computers and Synthesizers) Upon completion of this course, students should be able to trace the history, development, and use of computer synthesis; demonstrate working knowledge of the physics of sound and its relationship to computer-based synthesis; utilize original sounds to record multi-track sequences; and use software to transcribe and print musical scores. (3-0) 3

MUS 1350 History of Rock and Roll: Upon completion of this course, students should be able to identify correctly specific styles and /or eras, as well as specific artists, and to explain the importance of the contributions of various performers, producers, and disc jockeys. Students should also be able to describe the historical, social, and commercial forces which influenced the various eras and their influences upon American Culture. (3-0) 3

*MUS 1404 **Music Theory I:** This is an integrated course in which attention is given to harmony, sight singing, dictation, and keyboard. The harmony deals with forming and recognizing all types of triads and the five most commonly used seventh chords with their inversions in both major and minor tonality.
*Prerequisite: MUS 1310 or Departmental consent. (3-2) 4

*MUS 1405 **Music Theory II:** This course is a continuation of MUS 1404. Emphasis is placed on part-writing in three, four, and five voices using root position, first- and second-inversion triads, on analysis, and on more advanced work in sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1404. (3-2) 4

*MUS 1406 **Music Theory III:** This course is a continuation of MUS 1405. Harmony study includes consideration of non-chord tones and part-writing using all diatonic seventh chords. More advanced work is done on sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1405. (3-2) 4

MUS 2000 Seminar in Music I: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 1

MUS 2100 Seminar in Music I: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 1

MUS 2154 Advanced Class Piano I: Upon completion of this course, students should be able to harmonize simple tunes using secondary dominants and play a minimum number of technical studies and selected pieces of piano literature. Students provide their own headsets. (0-3) 1

MUS 2155 Advanced Class Piano II: This is a continuation of MUS 2154. This course emphasizes technical development and mastery of music from several historical periods. Students should be able to play three or more etudes and pieces studied by the entire class, and perform one or more pieces selected to improve or capitalize on individual pianistic ability. Students provide their own headsets. (0-3) 1

MUS 2156 Advanced Class Piano III: This is a continuation of MUS 2155. Technical and stylistic problems are dealt with both individually and collectively. Upon completion of this course, students should be able to perform one movement of a classical sonata, a baroque dance, and a romantic or contemporary work, or the equivalent. Students provide their own headsets. (0-3) 1

MUS 2158 Piano Ensemble: Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight reading, and continued technique building. (Note: This course may be repeated for six successful completions to meet degree requirements.) (0-3) 1

***MUS 2169 Jazz Guitar:** Upon completion of this course, students should be able to harmonize a standard tune, play C major scale in 12 positions and demonstrate basic understanding of chord/scale relationships through use of chord shapes.
*Prerequisite: Knowledge of 1st position C, A, G, E, D chords, barre chords, and major scale. (0-3) 1

MUS 2200 Seminar in Music II: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 2

MUS 2201 Business of Music: Upon completion of this course, students should be able to demonstrate, both orally and in writing, a basic understanding of Copyright Law, arrangements and abridgements of music, recording and songwriting contracts, agents and managers, performing rights organizations, and the musician's union. (2-0) 2

MUS 2202 Songwriting: Upon completion of this course, students should be able to write melodies and themes to given texts and original texts. (2-0) 2

***MUS 2204 Special Problems in Music:** This is an advanced problems course in which the student will select a topic for independent study involving laboratory and library work.
*Prerequisite: Approval of Department Head. (l-3) 2

MUS 2257 Jazz Piano I: Upon completion of this course, students should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper, and be able to take a standard popular tune and reharmonize it according to certain basic rules. (l-3) 2

***MUS 2258 Jazz Piano II:** Upon completion of this course, students should be able to reharmonize standard public domain tunes, create introductions, endings, and modulations reflecting the state of the art.
*Prerequisite: MUS 2257. (l-3) 2

MUS 2300 Seminar in Music III: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 3

***MUS 2404 History and Literature of Music I:** This is a study of music from ancient times through the Renaissance. Upon completing this course, students should be able to trace the development of music—its styles and forms—from ancient times through the Middle Ages and the Renaissance to 1600. Students should know the major composers and should be able to identify some specific works of music and/or forms.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2405 History and Literature of Music II:** This is a study of music of the baroque and classical periods up to Beethoven. Upon completing this course, students should be able to describe the more important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart, and should be able to identify some specific works.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2406 History and Literature of Music III:** This is a study of the romantic period, the music of Beethoven, and proceeding through the Twentieth Century. Upon completion of this course, students should be able to trace the major musical developments through the Nineteenth and Twentieth Centuries with respect to melody, rhythm, harmony, form, instrumentation. Students should be acquainted with a variety of music by the major romantic and contemporary composers, and be able to describe and distinguish style characteristics of a number of composers.
*Prerequisite: The ability to read music. (3-2) 4

***MUS 2407 Advanced Music Theory I:** This is a continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are studied and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to write a piece which modulates to another key and to analyze the phrase structure.
*Prerequisite: MUS 1406. (3-2) 4

***MUS 2408 Advanced Music Theory II:** This is a continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two- and three-part forms are discussed, as well as advanced work in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to harmonize a modulating melody in baroque or classical style and analyze the form of a simple work from those periods.
*Prerequisite: MUS 2407. (3-2) 4

***MUS 2409 Advanced Music Theory III:** This is a continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and Twentieth Century styles. Overall form is studied and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to analyze harmonically and melodically works in traditional style and to write a piece incorporating the above in Twentieth Century style.
*Prerequisite: MUS 2408. (3-2) 4

Nursing - Associate Degree – See NUR

NUP – Nursing, Practical

***NUP 5204 Nursing Practicum - Basic Clinical Skills:** Upon completion of this practicum, students should be able to perform selected standardized skills for assigned patients; provide a safe, therapeutic, and aesthetic environment; utilize the nursing process to meet basic health needs of hospitalized adult patients; record and report appropriate patient information; establish effective communication skills and interpersonal relationships; provide care for 1-2 patients in the clinical area; apply basic biopsychosocial principles and nursing concepts to patient care; and utilize legal and ethical principles as a basis for nursing actions.
*Prerequisite: Admission to program; Corequisites: NUP 5300, NUP 5804, BIO 1504, NUR 3305. (0-8-6) 3

***NUP 5300 Basic Principles of Drug Administration:** Upon completion of this course, students should be able to discuss state and federal laws regulating the use of drugs; demonstrate competency in computing drug dosage utilizing selected systems of measurements; classify drugs according to therapeutic purposes; identify drug sources; discuss the various common drug forms; describe the nursing responsibilities associated with drug administration; prepare drug cards utilizing appropriate information and resources; and prepare and administer oral and parenteral medications.
*Prerequisite: Admission to program or consent of instructor; Corequisites: NUP 5804, NUP 5204. (3-0-0) 3

***NUP 5302 Nursing Practicum III:** Upon completion of this practicum, students should be able to transfer knowledge learned from related courses to patient care activities; utilize the nursing process as a basis for providing care for children from infancy through adolescence; perform selected standardized skills; accurately assess and document nursing actions; provide a safe and therapeutic environment; establish effective communication and interpersonal relationships; administer medications (except I.V.) to pediatric patients; provide care for 1-2 pediatric patients in the clinical area; utilize ethical and legal principles as a basis for nursing actions; and reinforce basic patient teaching according to specific learning needs.
*Prerequisites: NUP 5705, NUP 5503; Corequisite: NUP 5406. (0-0-9) 3

***NUP 5303 Nursing Practicum IV:** Upon completion of this practicum, students should be able to apply knowledge and adapt skills learned in previous nursing and related course to patient care management; communicate and interact effectively with the childbearing family; provide a safe and therapeutic environment; incorporate the concept of family centered maternity/newborn care into the management of the maternity patient during all phases of the maternity cycle; integrate biopsychosocial concepts into the management of maternity patient care; utilize the nursing process within the legal role of the practical nurse as a basis for providing care for the childbearing family during the maternity cycle; recognize deviations in the normal maternity cycle and implement nursing interventions as directed; assist with patient-teaching during all phases of the maternity cycle; and develop skills and techniques required in the nursing management of mothers and newborn infants.
*Prerequisites: NUP 5705, NUP 5503; Corequisite: NUP 5407. (0-0-9) 3

***NUP 5304 Nursing Seminar:** Upon completion of this course, students should be able to trace the historical development of nursing; discuss trends and issues in nursing; recognize how the law and ethical standards influence the practice of nurses and nursing; discuss the roles and responsibilities of the licensed practical nurse; explore career options; discuss purpose and functions of selected nursing organizations; and recognize the need for continuing education to improve competency in nursing knowledge and practice.
*Prerequisites: NUP 5705, NUP 5503. (3-0-0) 3

***NUP 5406 Care of Infants and Children:** Upon completion of this course, students should be able to discuss biopsychosocial principles and nursing concepts associated with common medical and surgical conditions of children from infancy through adolescence; recall anatomical differences between the child and adult; identify stages of normal growth and development of children; compare the needs of the well child and the sick child; examine the nursing management for pediatric patients with selected health problems; explore the therapeutic communication techniques appropriate in working with child/parent; discuss principles related to selected standardized skills; and transfer knowledge learned from previous nursing and related courses.
*Prerequisites: NUP 5705, NUP 5503; Corequisite: NUP 5302. (4-0-0) 4

***NUP 5407 Care of Mothers and Newborn Infants:** Upon completion of this course, students should be able to discuss the concept of family-centered maternity/newborn care; describe biopsychosocial principles and nursing concepts associated with the maternity cycle; describe nursing management of the maternity patient during the antepartal, intrapartal, and postpartal periods; describe nursing management of the normal newborn and the newborn with diseases and/or abnormalities; identify and describe the management of common disorders complicating the maternity cycle; identify obvious deviations from the normal maternity cycle; describe special nutritional requirements during the maternity cycle; discuss pharmacological aspects related to the maternity cycle; explain the importance for the development of the parent-infant attachment process throughout the maternity cycle; discuss legal and ethical issues associated with maternity care; and assist with patient-teaching throughout the maternity cycle.
*Prerequisites: NUP 5705, NUP 5503; Corequisite: NUP 5303. (4-0-0) 4

***NUP 5502 Nursing Practicum I:** Upon completion of this practicum, student should be able to perform selected standardized skills; provide a safe, therapeutic and aesthetic environment; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; document nursing actions and report appropriate patient information; establish effective communication skills and interpersonal relationships; provide care for 1-2 patients in the clinical area; apply basic psychosocial principles and nursing concepts to patient care; reinforce patient teaching; and utilize ethical and legal principles as a basis for nursing actions.
*Prerequisites: NUP 5300, NUP 5804, NUP 5204, BIO 1504, NUR 3305; Corequisites: NUP 5703, PSY 2504, BIO 1505. (0-0-15) 5

***NUP 5503 Nursing Practicum II:** Upon completion of this practicum, students should be able to perform selected standardized skills; administer medications to assigned patients; employ physical and psychological safety measures when implementing care; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; record and report appropriate patient care information; establish effective communication skills and interpersonal relationships; provide care for 2-3 adult patients in the clinical area; apply basic psychosocial principles and nursing concepts to patient care; reinforce patient teaching according to specific learning needs; utilize ethical and legal principles as a basis for nursing actions; and demonstrate increased ability in managing patient care assignments for the adult patient having more complex medical-surgical conditions that result in alterations in body homeostasis.
*Prerequisites: NUP 5703, NUP 5502, PSY 2504, BIO 1505; Corequisite: NUP 5705. (0-0-15) 5

***NUP 5703 Care of Patients with Medical/Surgical Conditions I:** Upon completion of this course, students should be able to discuss disease producing factors and the responses they provoke; examine the special problems and needs of the geriatric patient and the patient undergoing surgery; discuss the nursing management of adult patients with the following types of disorders: body fluids and motion, respiratory, cardiovascular, musculoskeletal, and cellular proliferation; explore biopsychosocial principles and nursing concepts associated with frequently occurring common medical-surgical conditions; emphasize pharmacological, nutritional and patient-teaching principles as vital aspects of the nursing process; describe the nursing responsibilities for specific diagnostic and therapeutic measures; explain the principles of selected standardized skills; recognize ways in which an individual responds to illness; and discuss ethical and legal issues related to nursing management of adult patients.
*Prerequisites: NUP 5804, NUP 5204, NUP 5300, BIO 1504, NUR 3305; Corequisites: NUP 5502, PSY 2504, BIO 1505. (6-2-0) 7

***NUP 5705 Care of Patients with Medical/Surgical Conditions II:** Upon completion of this course, students should be able to discuss the nursing management of adult patients with the following disorders: skin, urinary, gastrointestinal, neurologic, endocrine, eye, ear and throat, male and female reproduction; apply biopsychosocial principles and nursing concepts associated with common medical and surgical conditions; incorporate patient teaching, pharmacology, nutrition, and rehabilitative care into patient care management; discuss patient preparation for specific diagnostic and treatment measures; relate principles of selected standardized skills; demonstrate an awareness of the experience of illness from the patient's perspective; recognize the importance of providing for and maintaining support systems for both patient and family; incorporate knowledge of body image, self-concept and self-esteem into the nursing process; examine legal and ethical considerations related to patient care; and transfer knowledge learned from previous nursing and related courses to patient care management.
*Prerequisites: NUP 5703, NUP 5502, PSY 2504, BIO 1505; Corequisite: NUP 5503. (6-2-0) 7

***NUP 5804 Introduction to Patient Care:** Upon completion of this course, students should be able to define nursing and discuss the role of the nurse; describe the role and the responsibilities of the practical nursing student; describe biopsychosocial principles and nursing concepts related to basic health care; identify the steps in the nursing process; develop basic physical assessment skills; apply theories of Maslow's Hierarchy of Human Needs and Erikson's Stages of the Lifecycle in meeting patient care needs; recognize the legal and ethical basis of nursing; develop a helping nurse/patient relationship; identify therapeutic communication techniques; identify guidelines for reporting and documenting appropriate patient information; recognize safe parameters of nursing practice; and develop an awareness of the ways in which an individual responds to illness.
*Prerequisite: Admission to program; Corequisites: NUP 5204, NUP 5300, BIO 1504, NUR 3305. (7-2-0) 8

NUR – Nursing, Associate Degree

***NUR 3216 Physical Assessment:** Upon completion of this course, students should be able to obtain a basic health history; assess the major body systems physically; recognize deviations from normal assessment findings; and utilize physical assessment findings in making nursing judgements.
*Prerequisite: NUR 3805 or consent of instructor; Corequisite: NUR 3904. (2-0-0) 2

***NUR 3305 Nutrition for Nurses:** Upon completion of this course, students should be able to identify the basic nutrients and basic nutritional needs of all age groups; describe the composition of common hospital diets; recognize the need for and interpret modified diets; and demonstrate awareness of the role of the nurse in relation to the dietary needs of patients.
*Prerequisite: Consent of instructor; Corequisite: NUR 3704. (3-0-0) 3

***NUR 3704 Fundamentals of Nursing I:** Upon completion of this course, students should be able to formulate a working definition of nursing practice for the Associate Degree Nurse; value legal and ethical responsibilities of the nurse; develop a basic working knowledge of the nursing process; illustrate the relatedness of the biological, psychological, sociological, and spiritual needs of the individual patient using Maslow's human need categories; distinguish between social and therapeutic communication; analyze the specific developmental tasks and related implications for nursing within each of Erikson's eight stages of development; examine changes that occur in the aging process; explain the nurse's responsibilities in administering therapeutic agents; explore selected concepts related to health and illness; adhere to practices which enhance patient welfare; demonstrate competency in performing selected standardized skills; transfer knowledge gained in the classroom to clinical practice; and develop an awareness of their own learning needs.
*Prerequisite: Admission to program; Corequisite or prerequisites: NUR 3305, BIO 1504, MAT 1504. (4-2-6) 7

***NUR 3805 Fundamentals of Nursing II:** Upon completion of this course, students should be able to explore selected principles and practices of nursing care for patients at various points along the health-illness continuum; formulate a working knowledge of selected biophysical concepts related to health and illness; examine the process of affecting change; develop selected interpersonal, technical, and intellectual skills necessary for applying the nursing process; demon-

strate competency in performing selected standardized skills; transfer knowledge gained in the classroom to clinical practice; and develop an awareness of their own learning needs.
*Prerequisite: NUR 3305, NUR 3704, BIO 1504, MAT 1504
Corequisites or prerequisites: BIO 1505, PSY 2504.
(4-2-9) 8

***NUR 3904 Care of the Adult Patient I:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care; demonstrate responsible professional behavior; apply biophysical concepts related to health and illness; utilize the nursing process to provide care for patients with disorders in acid-base balance, cellular function and proliferation, musculoskeletal and locomotion function, cardiovascular and hematologic function, and metabolic and endocrine function; recognize legal and ethical implications for nursing; respond with appropriate attitude therapy to patient's behavior; demonstrate assertiveness in communicating with instructors, peers, and members of the health care team; and administer oral, parenteral, and/or other medications; and perform standardized skills.
*Prerequisites: NUR 3805, BIO 1505, PSY 2504;
Corequisites or prerequisites: BIO 1503, NUR 3216.
(4-2-12) 9

***NUR 3905 Care of the Adult Patient II:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care; explore selected principles and practices of nursing care for patients at various points along the health-illness continuum; discuss deviations from normal anatomy and physiology and the resulting clinical manifestations of selected adult health problems; develop selected interpersonal, technical, and intellectual skills necessary for applying the nursing process; analyze the relationship between Erikson's last three stages of development and the health care needs of selected patients; explain the importance of moral, ethical, and legal values in providing nursing care; explore the role of the nurse as a facilitator of self-care and an active member of the health care team; transfer knowledge gained in the classroom to clinical practice; actively pursue experiences which will enhance their own learning needs; and apply the nursing process to care for patients with disorders of the immunologic system, connective tissue, gastrointestinal system, respiratory system, and reproductive system.
*Prerequisites: NUR 3904, NUR 3216, BIO 1503;
Corequisite or prerequisite: PSY 2514. (4-2-12) 9

***NUR 4514 Maternal-Newborn Nursing:** Upon completion of this course, students should be able to synthesize knowledge of fundamental nursing principles and practices to provide quality nursing care to the childbearing family; differentiate the normal from the abnormal biopsychosocial processes in the childbearing patient and newborn; integrate knowledge of individual and family development for the application of a family-centered approach; apply the nursing process to provide comprehensive, quality nursing care for the normal and complicated childbearing patient, newborn, and family; and analyze the legal, ethical, and moral atmosphere of contemporary maternity nursing. Clinical experiences will coincide with classroom theory.
*Prerequisite: NUR 3905. (3-0-6) 5

***NUR 4515 Psychiatric Nursing:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide safe nursing care for patients with altered behavior; develop self-awareness of their own needs and the needs of persons experiencing stress; analyze the moral, legal, and psychiatric implications for patients in the mental health system; identify preventive measures and treatment modalities of the health team on behalf of persons with altered behavior; examine physiological and psychosocial factors which contribute to the development of altered behavior in adults; apply knowledge of human sexuality to evaluate sexual role conflicts; utilize the nursing process in providing care for persons with altered behavior based on Erikson's developmental stages and Maslow's Hierarchy of Needs; utilize principles of interpersonal relationships to establish therapeutic communications with persons experiencing stress; and examine the role of the nurse and scope of community mental health agencies in promoting mental health and supportive measures for persons with altered behavior.
*Prerequisites: NUR 3905, PSY 2514. (3-0-6) 5

***NUR 4915 Nursing of Children:** Upon completion of this course, students should be able to assess, plan, implement, and evaluate nursing care for children (infancy through adolescence) with common health problems, such as hereditary disorders, congenital anomalies, infectious diseases, accidental injuries, oncological disorders, endocrine disorders, musculoskeletal abnormalities, respiratory disorders, and cardiovascular disorders; recognize both normal and abnormal growth and development, and implement care to meet the child's physical and psychosocial needs; and provide health care maintenance teaching for the pediatric patient and family.
*Prerequisite: NUR 3905. (4-0-15) 9

***NUR 4304 Nursing Perspectives:** Upon completion of this course, students should be able to analyze strategies for career success ; develop personal career goals; identify and discuss current issues in nursing; relate personal, legal, professional, and ethical responsibilities to the practice of nursing; and identify the roles and responsibilities of the Associate Degree Nurse upon graduation. These perspectives guide students toward their goal of employment and/or sequential education after graduation.
*Prerequisites: NUR 4514, NUR 4515, NUR 4915;
Corequisites: NUR 4505, NUR 4606. (3-0-0) 3

***NUR 4505 Nursing Practicum—Advanced Care:** Upon completion of this practicum, students should be able to utilize the nursing process in providing individualized care for patients with selected health problems; provide total nursing care for assigned patients in an acute care setting; apply theoretical concepts in the clinical setting; employ effective interpersonal skills; demonstrate an ability to communicate verbally and in writing in a relevant and concise manner; perform selected standardized skills; administer medications to assigned patients; initiate patient teaching according to specific learning needs of the patient; manage care for a small group of patients; demonstrate accountability when working with co-workers and patients; and employ self-direction in meeting learning goals.
*Prerequisites: NUR 4514, NUR 4515, NUR 4915;
Corequisites: NUR 4606, NUR 4304. (0-0-15) 5

***NUR 4606 Advanced Care of the Adult Patient:** Upon completion of this course, students should be able to discuss deviations from normal anatomy and physiology and the resulting clinical manifestations of selected adult health problems and emergencies; explore the nurse's role in the management of patients with selected health problems and emergencies; examine the responsibilities of a nurse manager; develop the intellectual, technical, and interpersonal skills necessary for applying the nursing process to selected nursing problems; explore the interrelatedness or biological, psychological, sociological, cultural, and spiritual needs of the individual patient as described by Maslow; explain how knowledge of Erikson's last three stages of development can be incorporated into patient care; integrate moral, ethical, and legal values into nursing practice; appreciate the psychological needs of hospitalized patients at various points along the health-illness continuum; and develop a commitment to continued learning in the medical-surgical content presented in the course.
*Prerequisites: NUR 4514, NUR 4515, NUR 4915; Corequisites: NUR 4505, NUR 4304. (6-0-0) 6

Occupational Health, Safety and Environmental Technology – See HSE

Paralegal Technology – See LEX

Peer Tutoring: PTL – See page 47.

PHI - Philosophy

PHI 1500 Introduction to Philosophy: This course is an introduction to the basic problems of humankind and some philosophical solutions which emphasize those systems of thought which deal with these problems. Upon completion of this course, students should be able to construct guidelines for decision making based on knowledge of wisdom of past thinkers. (5-0) 5

PHI 2500 Logic: This course is an intensive study of the methodology of reasoning, including principles of induction and deduction, using symbolic logic. Upon completion of this course, students should be able to recognize the inconsistency in any given line of reasoning, and construct a persuasive argument based on reliable information regarding the subject matter. (5-0) 5

PHY – Physics

***PHY 1404 Physics I—Basic Mechanics:** This is the first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working toward bachelor's degrees in areas other than engineering, mathematics, or physical science. Upon completion of this course, students should be able to demonstrate proficiency in the use of the International System of Units and have an understanding of the basic principles of linear motion, force, friction, energy, power, momentum and rotational dynamics.Their understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts.
*Prerequisite: A grade of C or better in MAT 1504 or MAT 3507, Mathematics Placement Test, or Departmental permission. (3-2) 4

***PHY 1405 Physics II—Elastic and Thermal Properties of Matter:** This is a continuation of PHY 1404 which includes the study of such topics as equilibrium, elastic models, fluid dynamics, simple harmonic motion, thermal properties of matter, gas laws, and heat transfer. During this course, students should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas.
*Prerequisite: PHY 1404, or Departmental permission. (3-2) 4

***PHY 1406 Physics III—Electricity and Magnetism:** This is the third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, magnetism and electromagnetic induction. These topics are treated with both a qualitative and a problem-solving approach.
*Prerequisite: PHY 1404 or Departmental permission.(3-2) 4

***PHY 1407 Physics IV—Modern Physics:** This is the last of the introductory physics sequence and is an overview of the most significant discoveries in physics which have radically changed our views of nature since the nineteenth century. Beginning with general wave phenomena, the course progresses through em waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity, and nuclear processes.
*Prerequisite: PHY 1406, or ELN 3515, or Departmental permission. (3-2) 4

PHY 1500 Introduction to Astronomy: This course introduces students to the historical development of astronomy, the basic tools and techniques of astronomy, and past and present cosmological models. Upon completion of this course, students should be able to use an astronomical coordinate system and a star map to locate a prominent astronomical feature; describe the relative locations, motions, and composition of the major components of the solar system; briefly describe major cosmological phenomena such as red shift, pulsars, super novae, etc. (4-2) 5

***PHY 2504 General Physics I—Mechanics:** This is the first of a four-course sequence designed primarily for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis.
*Prerequisite: MAT 1524 or Departmental permission. (4-2) 5

***PHY 2505 General Physics II—Fluid Mechanics, Heat and Waves:** This is a continuation of General Physics I with emphasis on elastic properties of matter, fluid statics and dynamics, thermodynamics, kinetic theory, and wave mechanics. Calculus is used extensively.
*Prerequisite: PHY 2504 or Departmental permission. (4-2) 5

***PHY 2506 General Physics III—Electricity and Magnetism:** This is the third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the areas of electrostatic fields, current electricity, and electromagnetic fields.
*Prerequisite: PHY 2505 or Departmental permission.
(4-2) 5

***PHY 2507 General Physics IV—Optics and Modern Physics:** This is the fourth course in the General Physics sequence which is designed for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic waves, Maxwell's equations, geometric optics, optical spectra, relativity, quantum mechanics, and nuclear emissions.
*Prerequisite: PHY 2506, or a grade of B or better in PHY 1406 or ELN 3515, or Departmental permission (4-2) 5

PHY 3414 Physics of Respiratory Care: Students completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on application to Respiratory Care. (3-2) 4

PHY 5304 Applied Physics I: This is an introductory course in physics and its application covering systems and measurement and properties of solids, liquids, and gases. Emphasis is placed upon basic principles of electricity and magnetism. the production, transmission, distribution, with measurement, and specific application of electrical energy also constituting major areas of study. Upon completion of this course, students will have demonstrated an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3

***PHY 5305 Applied Physics II:** This is a continuation of PHY 5304. Principles of force, motion, work, energy, power, and mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work is also covered. Student mastery testing is again employed. (2-2) 3

Physical Education - See HPE

PME – Small Engine Repair

PME 5211 Small Engine Repair I: Upon completion of this course, students should be able to describe the basic operation of two-stroke and four-stroke-cycle air-cooled engines; describe and service at least two types of magneto ignition systems and carburetion systems; and perform decarboning service on heads of air-cooled engines. (1-3) 2

***PME 5214 Small Engine Overhaul:** Upon completion of this course, students should be able to describe and perform service on most small air-cooled two- or four-stroke-cycle engines. This service will include disassembly and reassembly, measuring components for wear, servicing valves, resizing cylinders, and replacing bearings and bushings.
*Prerequisite: PME 5211. (1-3) 2

POL – Political Science

POL 1502 American Politics: Students will analyze the three branches of American national government and the ways in which they interact with each other, and with political parties, interest groups, and the electorate in political decision-making. (5-0) 5

POL 1510 Comparative Politics: Students will compare and contrast decision making in several Western and non-Western, industrial and less developed, democratic and authoritarian political systems; their study will emphasize politics in Britain, France, Germany, China, and that area formerly known as the Soviet Union. (5-0) 5

POL 1511 International Relations: Students will analyze the effects on international war and peace of various causes including nationalism and the nation-state, armament and alliances, regional cooperation and the United Nations, as well as economic development and world trade. (5-0) 5

***POL 2104-2504 Special Topics in Political Science:** Students will examine particular topics of political interaction and decision making in areas not covered in standard courses. Course objectives vary with the subject matter studied.
*Prerequisite: Consent of instructor and Department Head.
(1 to 5 hrs. class/week—1 to 5 hrs. credit)

POL 2500 State and Local Politics: Students will analyze politics in the states and localities emphasizing changing budget priorities and declining resources, problems of the big cities, the rise of the suburbs, the decline of southern sectionalism, and reform issues in contemporary politics. (5-0) 5

POL 2501 Political Ideologies: Students will explain the functions of political ideology, and describe the beliefs and practice of communism, socialism, fascism, capitalism, and democracy; they will also survey new and evolving ideologies of ethnic, sexual, and religious liberation. (5-0) 5

Postal Service Technology – See PSM

PRN – Graphic Arts, Printing

***PRN 4204 Graphic Arts Cooperative Work Experience II:** This course is a continuation of PRN 5207 Graphic Arts Cooperative Lab I.
*Prerequisite: PRN5207. Completion and acceptance by Program Director and completion of Work Experience Registration Approval Form. (0-20) 2

PRN 4311 Printing Sales: Upon completion of this course, students should be able to plan and prepare for a sales interview with a client; describe proper procedures in dealing with a client and associates in the printing industry; describe the system of selling by objectives; describe the importance of physical fitness and proper grooming; write effective business letters; describe the proper use of audiovisuals in selling; demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; describe proper procedures for credit collections. (3-0) 3

***PRN 4337 Color Separation Techniques and Theory:** This is a continuation of PRN 5409. Upon completion of this course, students should be able to describe basic color theory with regard to additive and subtractive color; produce a set of process color separations; explain the operation of a color scanner and the procedure to color correct.
*Prerequisite: PRN 5409. (2-2) 3

***PRN 4401 Graphic Communications:** At the completion of this course, students will be able to do work in copy preparation, process camera, image assembly, proofing, platemaking, printing and bindery to produce projects of their own design to commercial quality standards.
*Prerequisite: PRN 5700 and permission of the Program Director. (2-4) 4

***PRN 5207 Graphic Arts Cooperative Work Experience I:** Upon completion of this course, students should be able to apply the skills learned in the graphic arts classroom and lab to actual working situations in the graphic arts industry.
*Prerequisite: Permission of the Program Director and completion of Work Experience Registration Approval Form. (0-20) 2

***PRN 5272 Printing Applications I - Part B:** This is a continuation of PRN 5371.
*Prerequisite or Corequisite: PRN 5371. (0-6) 2

***PRN 5273 Printing Applications I - Part C:** This is a continuation of PRN 5272.
*Prerequisite or Corequisite: PRN 5272 (0-6) 2

PRN 5301 Printing Management: Upon completion of this course, students should be able to describe the structure of the management levels in a company; discuss management skills and leadership traits of first-line supervisors or small shop managers; describe production control, proper purchasing of supplies, quality control, and material handling. (3-0) 3

***PRN 5303 Printing Estimating:** Upon completion of this course, students should be able to compute paper and ink costs; copyfit type for a job; compute cost of producing a negative, plate, printing, and bindery for a given job.
*Prerequisites: PRN 5315, PRN 5425, PRN 5435 or permission of Program Director. (3-0) 3

PRN 5310 Substrates and Ink: Upon completion of this course, students should be able to state the characteristics of the major classifications of paper and other substrates; describe how paper and ink are manufactured and distributed; describe and give solutions to paper and ink related problems on the press; select paper and ink properly matched to the customer's specifications. (3-0) 3

***PRN 5313 Desk Top Publishing III:** This is a continuation of PRN 5317. Upon the completion of this course, students should be able to identify and describe various applications of electronic publishing and its relation to graphic arts; operate hardware in a desktop publishing system using advanced pagination software; produce completed projects including graphics and text. Demonstrate an ability to insert text and pages, place, format, and apply tracking and tabs to fit copy, modify leading, create and use master pages, lay out a grid, and set column horizontal, and vertical guidelines, set application defaults, produce and place reverse type, place Encapsulated PostScript and TIFF graphics, define colors, prepare and print spot-color separations, set application defaults, flow text into different columns and wrap it around graphics, create and apply style sheets, create headlines that span several columns, create and print double-sided documents, create fold and crop marks, save documents as templates, and rotate text blocks.
*Prerequisite: PRN 5317. (2-2) 3

PRN 5314 Process Camera I: Upon completion of this course, students should be able to describe the purpose and function of photomechanical photography and its equipment and materials; set up and operate a process camera shooting line and halftone copy; use a densitometer, the diffusion transfer process and process photography filters. (2-2) 3

***PRN 5315 Process Camera II:** (A continuation of PRN 5314). Upon completion of this course, students should be able to shoot line and halftone copy of a more difficult nature; do special effects photography including duotones, dropout halftone and special effects.
*Prerequisite: PRN 5314. (2-2) 3

PRN 5316 Screen Printing I: Upon completion of this course, students should be able to use correctly all basic materials of screen printing; prepare hand-cut film stencils, photo direct and photo indirect stencils; print on at least two different surfaces; describe the differences in the technique and materials used in printing on different materials; describe the different uses of screen printing; describe the use of machines and automated equipment in industrial screen printing.(2-2) 3

PRN 5317 Desk Top Publishing I: Upon completion of this course, students should be able to start up correctly, operate and close down a desk top computer and laser printer; use the menus, mouse, keyboard, and available software tools and functions to produce graphic images that include pictorial and typographical elements; enter, proofread, and edit text; demonstrate an ability to apply typographic and design principles to the execution of computer generated graphics; and understand selected terms pertaining to typesetting, publishing, and software. (2-2) 3

***PRN 5319 Desk Top Publishing II:** This is a continuation of PRN 5317. Upon completion of this course, students should be able to identify and describe various applications of electronic publishing and its relation to graphic arts; operate hardware in a desk top publishing system using basic pagination software; produce completed projects including graphics and text. Demonstrate an ability to insert text and pages, place, format, and apply tracking and tabs to fit copy, modify leading, create and use master pages, layout a grid, and set column horizontal, and vertical guidelines, set application defaults, produce and place reverse type, place Encapsulated PostScript and TIFF graphics, define colors, prepare and print spot-color separations, set application defaults, flow text into different columns and wrap it around graphics, create and apply style sheets, create headlines that span several columns, create and print double-sided documents, create fold and crop marks, save documents as templates, and rotate text blocks.
*Prerequisite: PRN 5317. (2-2) 3

***PRN 5320 Desk Top Publishing IV:** Upon completion of this course, students should be able to explain the use of computerized prepress as it is used in the graphic arts industry; be able to use a desk top computer and perform advanced graphic design techniques in conjunction with pagination, color separation, stripping for offset, and image manipulation.
*Prerequisite: PRN 5317. (2-2) 3

***PRN 5364 Fundamentals of Printing:** This course is designed to give Commercial Art students a basic understanding of printing. At the completion of this course, students should be able to produce line and halftone negative; strip combination flats; make plates; print a simple self-promotional folder.
*Prerequisites: VCO 4304, VCO 4305, VCO 4415. (2-2) 3

PRN 5365 Image Assembly I: Upon completion of this course, students should be able to describe and demonstrate various methods of image assembly; strip line and halftone combinations; make dylux and color proofs; strip multi-color work with two, three, and four overlapping screen tints; step and repeat an image; expose and process various types of offset plates. (2-2) 3

PRN 5369 Introduction to Graphic Communications: Upon completion of this course, students should be able to list and describe the major printing processes; describe the phases a piece of printing goes through in the production process; describe the duties performed by those employed at various stages of production, management and sales; describe the graphic arts industry in the local area. (3-0) 3

***PRN 5371 Printing Applications I - Part A:** This is a course for students unable to make the total time requirements for PRN 5700 in one quarter. At the completion of this course, PRN 5372 and PRN 5373, students should have met all the requirements for PRN 5700.
*Prerequisites: Same as PRN 5700. (2-3) 3

***PRN 5390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor and the Program Director is required along with an application to take the course. (3-0) 3

PRN 5401 Copy Preparation Technology I: Upon completion of this course, students should be able to produce camera ready paste-up; use the common tools and materials found in copy preparation; produce simple and complex mechanicals using key line art work and overlays; describe the relationship of copy preparation with the rest of the printing process. (2-4) 4

PRN 5402 Mathematics for Graphic Communications: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems in the graphic arts field; use ratio and proportion to describe chemical mixtures in the lab; read a scale accurately; determine mathematically the most economical cut of paper stock; perform area and volume calculations; use simple algebraic equations to solve dimensional problems; have a working knowledge of pica and point measurement; discuss measurement using the metric system as well as the English system. (4-0) 4

***PRN 5403 Copy Preparation Technology II:** This is a continuation of PRN 5401. Upon completion of this course, students should be able to complete paste-up mechanicals and camera-ready art of a more difficult nature.
*Prerequisite: PRN 5401. (2-4) 4

***PRN 5409 Color Reproduction:** Upon completion of this course, students should be able to explain color theory; describe various methods used to make separations, identifying strengths and weaknesses; list and describe the major proofing methods used for process color; produce a simple eye-pleasing color separation.
*Prerequisites: PRN 5435, PRN 5315, PRN 5317. (3-2) 4

PRN 5424 Offset Press Operation I: Upon completion of this course, students should be able to describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; set the feeder, delivery, dampener rollers, ink, fountain solution, and pH; operate duplicator to produce a satisfactory printed piece; identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures. (2-4) 4

***PRN 5425 Offset Press Operation II:** This is a continuation of PRN 5424. Upon completion of this course, students should be able to print projects of a complex nature; identify and correct problems during press run; control the register of color printing.
*Prerequisite: PRN 5424. (2-4) 4

***PRN 5435 Image Assembly II:** This is a continuation of PRN 5424. Upon completion of this course, students should be able to make up flats for larger offset presses; composite negatives; strip duotones and process color; work with spreads and chokes; identify various methods of stripping a printed piece to produce the desired finished product; work with more involved and difficult stripping projects.
*Prerequisite: PRN 5365. (2-4) 4

***PRN 5700 Printing Applications I:** Upon completion of this course, students should have attained additional skills in the following areas; layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone and special effects copy; stripping; making plates; operating press and bindery equipment. Students will produce commercial quality printed pieces.
*Prerequisites: PRN 5313, PRN 5314, PRN 5365, PRN 5401, PRN 5424, and the permission of the Program Director. (2-15) 7

PSC – Law Enforcement Technology

PSC 3303 Motor Vehicle Laws of North Carolina: Upon completion of this course, students should be able to apply the provisions of North Carolina General Statute Chapter 20 toward its intended purpose: to protect the lives and property of persons using the streets and highways of North Carolina. (3-0) 3

PSC 3500 Introduction to Criminology: Upon completion of this course, students should be able to identify and describe the major theories of crime causation, the major crime prevention programs, the major treatment programs; and identify the major researchers in the field of criminology. (5-0) 5

PSC 3501 Introduction to Law Enforcement: Upon completion of this course, students should be able to identify at least 80 major concepts related to the history of law enforcement; identify the purpose of at least 25 law enforcement agencies operating in North Carolina; from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; recognize at least 34 current practices of law enforcement agencies and/or personnel; and identify the purpose of at least 10 federal law enforcement agencies. (5-0) 5

PSC 3504 Crime Scene Technology: Upon completion of this course, students should be able to protect life and property at a crime scene; protect, preserve, and photograph a crime scene; search the crime scene for evidence; maintain chain of custody in handling of physical evidence; and demonstrate proficiency in the use of specialized equipment in collecting, identifying, and processing physical evidence. (4-2) 5

PSC 3510 Criminal Law: Upon completion of this course, students should have a practical approach to the substantive law and should have a sound introduction to legal theory; have a basic knowledge of the common law; identify and define elements of crimes; understand how basic concepts function to determine the law; and be able to identify and define legally recognized defenses. (5-0) 5

PSC 3514 Police Organization and Administration: Upon completion of this course, students should be able to depict the organization of a police agency within the guidelines of sound organizational principles; recognize effective administrative functions; formulate a budget; and write a staff study, emergency plan, standard operating procedure, and a general order. (5-0) 5

PSC 4310 Self-Defense and Weaponry: Upon completion of this course, students should be able to demonstrate firing proficiency with the police service revolver, including prescribed safety procedures; self-defense procedures utilizing police methods; proficiency in the use of the baton; and proper utilization of handcuffs.
Note: A fee of $100 is charged for supplies. Attendance at all sessions is required. (1-4) 3

PSC 4312 Organized Crime: Upon completion of this course, students should be able to identify organized crime families in the U. S.; recognize the effects of organized crime; identify the agencies and efforts utilized to reduce the impact of such crime in this country; and identify successful efforts in fighting organized crime. (3-0) 3

PSC 4501 Constitutional Law: Upon completion of this course, students should be able to identify, define, and apply statutory rules and standards in the area of arrest, search and seizure; and possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. (5-0) 5

PSC 4503 Law Enforcement Psychology: Upon completion of this course, students should be able to identify the most common psychological demands, affects and effects of the law enforcement function on the officers and their families; identify common principles of dealing with and controlling people; identify the behavioral characteristics of abnormal people commonly encountered by police officers; and know the remedial services that are available. (5-0) 5

***PSC 4504 Criminal Procedure and Rules of Evidence:** Upon completion of this course, students should be able to display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence and demonstrate a generally desired and accepted practice of courtroom decorum. This includes North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, examination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof, and presumptions.
*Prerequisite: PSC 3410, PSC 4501, or Departmental consent. (5-0) 5

PSC 4505 Criminal Investigation: Upon completion of this course, students should be able to maintain an accurate notebook; define the accepted procedures for interviews, interrogations, admissions, confessions, and written statements; define the accepted procedures for developing and maintaining informants; identify sources of information; define accepted procedures for undercover operations and surveillance; define accepted procedures for the investigation of specific offenses; define specific forensic procedures and applications; and identify laws and case laws applicable to criminal investigation. (5-0) 5

***PSC 4506 Advanced Crime Scene Technology:** Upon completion of this course, students should be able to sketch a mock crime scene; photograph a mock crime scene; process a mock crime scene for latent fingerprints, biological fluids, ballistics evidence, and trace evidence; be 100% complete in gathering physical evidence in a mock crime scene; process a mock crime scene for tool marks; prepare the physical evidence for transport to a crime lab; present, in a mock trial, all evidence found at the mock crime scene; and withstand cross-examination in presenting evidence in mock trial.
*Prerequisite: PSC 3504 or Departmental consent. (4-2) 5

PSC 4510 Law Enforcement Operations: Upon completion of this course, students should be able to define the purpose of police patrols; define the types of patrol; define the types of communications; define the accepted procedures for observation, perception, note taking, report writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; perform a stop and frisk; and complete an affidavit and search warrant. (5-0) 5

PSC 4516 Executive Protection and Terrorism: Upon completion of this course, students should be able to define the history of terrorism; be familiar with the infrastructure of current terrorist organizations, including their objective, phi-

losophy, and techniques; define the current practices of executive protection and, in a given situation, construct a plan for executive protection. (5-0) 5

PSC 4517 Principles of Interviewing and Interrogation: Upon completion of this course, students should be able to interview victims, witnesses, informants, and complainants as a communicative relationship; use professionally acceptable techniques, question suspects and persons in custody; and apply information obtained through the interview process for court testimony when required. (5-0) 5

PSC 4520 Public Relations In Law Enforcement: Upon completion of this course, students should be able to define the focus and overall purpose of public relations; list 25 positive benefits of effective public relations for criminal justice agencies; list 35 negative aspects of faulty public relations for criminal justice systems; define the power and influence of public opinion; identify major problems in public relations as related to the criminal justice mission; identify factors which foster effective and affective public relations; identify examples of conserving favorable public opinion; and identify common ways of sampling public opinion. (5-0) 5

PSM – Postal Service Technology

PSM 3300 Postal Service History and Organization: Upon completion of this course, students should be able to trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate, and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91.375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; and demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

PSM 3301 Postal Service Labor Management: This course presents an overview of laws and practices as related to Labor Management in the Postal Service. Upon completion of this course, students should be able to discuss the development of labor unions of Postal Service employees with emphasis on National and Local agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-0) 3

PSM 3304 Mail Processing I: Upon completion of this course, students should be able to explain and interpret mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mailprocessing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection, and bulk mail centers . (3-0) 3

PSM 3305 Mail Processing II: Upon completion of this course, students should be able to explain and interpret postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-0) 3

PSM 3301 Postal Service (Support) Finance: Upon completion of this course, students should be able to explain how postal revenue is received and controlled, the procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report, as well as budgeting, financial accounting and reporting, timekeeping, travel regulations, and Administrative Services. (3- 0) 3

PSM 4420 Postal Employee Services: Upon completion of this course, students should be able to explain the functions of the Personnel Office in relation to the services it provides for postal employees, including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices, insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-0) 3

PSM 3321 Postal Customer Services: This course is designed to provide students with an in-depth knowledge of all services provided for postal customers. Upon completion, students should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-0) 3

PSM 3330 Postal Delivery and Collection: This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs: "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion, students should be able to state and explain the duties, responsibilities, and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-0) 3

PSM 4331 Postal Problem Analysis: Function Four Review: Upon completion of this course, students should be able to conduct a clerical staffing and scheduling audit. The review can be critical not only to meeting the aggressive budgets in LDC 4 but also in providing good, efficient service to the public. Students will be able to use the Postmaster Fact Sheet in conducting the reviews, to complete an allied Labor, Schedule, and figure productivity rates. (3-0) 3

PSM 4332 Postal Service Safety Training: Upon completion of this course, students will be able to identify principles of safety guarding of equipment and machines in the U.S. Postal Service; explain the principles of Job Safety Analysis; demonstrate knowledge of highlights of Occupational Safety and Health Act (OSHA); demonstrate a working knowledge of current practices and problems relating to health hazards pertinent to the U.S. Postal Service; and complete all necessary record keeping and forms used by the U.S. Postal Service in documenting accidents. (3-0) 3

PSY – Psychology

PSY 1500 Psychology of Adjustment: Upon completion of this course, students should be able to identify various stress situations encountered in life and strategies useful in meeting these situations. Areas of adjustment which will be emphasized are self-concept, assertive and aggressive behavior, interpersonal relations, stress, and abnormal behavior. (5-0) 5

***PSY 2136-2536 Special Topics in Psychology:** A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by, and under the direction of the instructor.
*Prerequisite: Consent of Department Head and instructor.
(1-5 hrs. class/week—1 to 5 hrs credit)

PSY 2500 Educational Psychology: Upon completion of this course, students should demonstrate knowledge of learning, motivation and development as these relate to classroom teaching. Students should also demonstrate a knowledge of testing, evaluation and assessment. (5-0) 5

PSY 2504 General Psychology: This is a course designed to introduce students to the discipline of psychology. Upon completion of this course, students should demonstrate knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and the practical and therapeutic application of these concepts. (5-0) 5

***PSY 2505 Human Development:** Upon completion of this course, students should demonstrate knowledge of the physical, psychological, social, and intellectual development of humans from conception to death.
*Prerequisite: PSY 2504. (5-0) 5

***PSY 2514 Abnormal Psychology:** Upon completion of this course, students should be able to identify the major forms of mental illness as described in the DSM III, the etiology of mental illness and the preferred methods of treatment.
*Prerequisite: PSY 2504. (5-0) 5

PSY 3314 Principles of Humanistic Psychology: Upon completion of this course, students should demonstrate knowledge of what constitutes a healthy personality as described by the major humanistic theorists. (3-0) 3

PTH – Physical Therapist Assistant

***PTH 3202 Physical Therapy Seminar:** Upon completion of this course, students should be able to review articles from professional publications; research patient-related topics utilizing a variety of acceptable references; and present relevant research content to classmates and/or other health professionals in a number of presentational styles.
*Prerequisites: PTH 3508, PTH 3302, PTH 3705; Corequisites: PTH 3801, PTH 3509. (2-0-0) 2

***PTH 3302 Pathology II:** Upon completion of this course, students should be able to describe normal development of the musculoskeletal system and related tissues; compare and contrast pathological changes with normal changes in structure and function occurring throughout the lifespan; and identify etiology, signs, symptoms, complications, treatment options, and prognoses for various orthopedic conditions of the upper extremity, skull, and trunk which may be experienced by patients throughout the lifespan and treated by physical therapy practitioners.
*Prerequisites: PTH 3507, PTH 3405, PTH 3605; Corequisites: PTH 3508, PTH 3705. (3-0-0) 3

***PTH 3405 Pathology I:** Upon completion of this course, students should be able to describe normal development of the musculoskeletal system and related tissues; compare and contrast pathological changes with normal changes in structure and function occurring throughout the lifespan; and identify etiology, signs, symptoms, complications, treatment options, and prognoses for various lower extremity orthopedic conditions experienced by patients throughout the lifespan and treated by physical therapy practitioners.
*Prerequisites: All non-PTH courses required in curriculum; Corequisites: PTH 3507, PTH 3605. (4-0-0) 4

***PTH 3507 Kinesiology I:** Upon completion of this course, students should be able to identify all bones of the lower extremity; describe and demonstrate lower extremity joint actions; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; perform accurate goniometric measurement of lower extremity joint motions; identify, describe, and reproduce the components of normal gait; and perform manual muscle testing of selected muscles/actions.
*Prerequisites: All non-PTH courses required in curriculum; Corequisites: PTH 3405, PTH 3605. (3-4-0) 5

***PTH 3508 Kinesiology II:** Upon completion of this course, students should be able to identify all bones of the upper extremity, skull, and trunk; describe and demonstrate upper extremity joint actions, as well as movements of the trunk and temporomandibular joint; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; perform accurate goniometric measurement of upper extremity joint motions; and perform manual muscle testing of selected muscles/actions.
*Prerequisites: PTH 3507, PTH 3405, PTH 3605; Corequisites: PTH 3302, PTH 3705. (3-4-0) 5

***PTH 3509 Patient Care Skills III:** Upon completion of this course, students should be able to discuss various pain control theories; identify etiology, signs, symptoms, complications, treatment options, and prognoses for various conditions of the cardiovascular, pulmonary, and integumentary systems; describe a comprehensive treatment program for the patient with an amputation; and competently perform various treatment techniques for conditions studied, including electrical stimulation techniques, intermittent venous compression, cardiopulmonary physical therapy, ultraviolet radiation, wound care, and therapeutic exercise.
*Prerequisites: PTH 3508, PTH 3302, PTH 3705; Corequisites: PTH 3801, PTH 3202. (3-4-0) 5

***PTH 3605 Introduction to Patient Care Skills:** Upon completion of this course, students should be able to describe the development, preparation, and roles of physical therapy personnel, relating those to other health care practitioners; discuss and describe legal and ethical practice; discuss infection control policies and issues related to architectural barriers and accessibility; and demonstrate basic aseptic techniques, safe transfer techniques using proper body mechanics, proper bed positioning, gait training techniques using various assistive devices, performance of therapeutic soft tissue techniques, and ability to obtain the vital signs of temperature, pulse, respiration, and blood pressure.
*Prerequisites: All non-PTH courses required in curriculum; Corequisites: PTH 3507, PTH 3405. (2-8-0) 6

***PTH 3705 Patient Care Skills II:** Upon completion of this course, students should be able to demonstrate competence in the application of therapeutic heating and cooling modalities, range of motion exercises and stretching, strengthening exercises, traction, and various exercise protocols for conditions studied previously or concurrently; explain the rationale, expected physiological effects, and indications/contraindications for the techniques studied; and integrate previously-learned knowledge/skills with newly-acquired knowledge/skills.
*Prerequisites: PTH 3507, PTH 3405, PTH 3605;
Corequisites: PTH 3508, PTH 3302. (3-8-0) 7

***PTH 3706 Patient Care Skills IV:** Upon completion of this course, students should be able to discuss etiology, signs, symptoms, complications, and prognoses for various neurological and neuromuscular conditions experienced throughout the lifespan and treated by physical therapy practitioners; and identify and proficiently administer the components of comprehensive treatment programs for conditions studied, appreciating the contributions and rationale of a variety of treatment approaches.
*Prerequisites: PTH 3801, PTH 3509, PTH 3202;
Corequisites: PTH 4324, PTH 4201. (3-8-0) 7

***PTH 3801 Clinical Education I:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisites: PTH 3508, PTH 3302, PTH 3705;
Corequisites: PTH 3509, PTH 3202. (0-0-24) 8

***PTH 4201 Community Health and Welfare:** Upon completion of this course, students should be able to describe a community of interest in solving problems of a health or welfare nature; identify and describe some governmental and social influences upon the development of our current health and welfare system; identify at least five referral sources possibly available to a person in need of those services; develop an understanding of current medical/legal and medical/ethical issues; and intelligently monitor rapidly changing health and welfare issues in the future.
*Prerequisites: PTH 3801, PTH 3509, PTH 3202;
Corequisites: PTH 4324, PTH 3706. (2-0-0) 2

***PTH 4324 Psychology of Adjustment:** Upon completion of this course, students should be able to identify a variety of personality traits; recognize the value of utilizing various coping mechanisms by both the sick and the well; participate effectively in interpersonal relations as related to various stress situations; demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient; and relate the experience of another in adjustment to a disability.
*Prerequisites: PTH 3801, PTH 3509, PTH 3202;
Corequisites: PTH 4201, PTH 3706. (3-0-0) 3

***PTH 4606 Clinical Education II:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisites: PTH 4324, PTH 4201, PTH 3706;
Corequisite: PTH 4607. (0-0-18) 6

***PTH 4607 Clinical Education III:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisites: PTH 4324, PTH 4201, PTH 3706;
Corequisite: PTH 4606. (0-0-18) 6

PTL – Peer Tutoring. See page 47.

RDN – Reading. See page 47.

REA – Real Estate Appraisal

***REA 4381 Introduction to Real Estate Appraisal (R-1):** This course introduces students to the subject of real estate appraisal and prepares them for the R-2 course on "Valuation Principles and Procedures." It begins with coverage of basic real property law, followed by coverage of the various concepts of value and the operation of real estate markets. Relevant mathematical concepts are then reviewed and the student is introduced to statistical concepts used in appraisal practice. Next comes coverage of real estate financing terminology and practices, followed by an introduction to the basics of residential construction and design. Students are then provided an overview of the entire valuation (appraisal) process, and the course concludes with specific coverage of residential neighborhood analysis and property analysis, two of the most important preliminary steps in the appraisal process.
*Prerequisite: RES 3601, or satisfactory completion of a sales prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license. (Offered fall quarter.) (3-0) 3

***REA 4382 Valuation Principles and Procedures (R-2):** This course focuses on the procedures (methodology) used to develop an estimate of property value and how the various principles of value relate to the application of such procedures. Emphasis is on appraisal of residential 1-4 unit properties and small farms; however, all the concepts and procedures covered are applicable to the appraisal of all types of properties. The course begins with a review of the appraisal process and pro-

ceeds into thorough coverage of the sales comparison approach, followed by site valuation methods used to appraise residential 1-4 unit properties. the cost approach is then covered in depth. The basic concepts and methodolody associated with the income approach are covered, with emphasis on direct capitalization using an overall rate and the gross rent multiplier technique. Finally, students are introduced to the process of reconciling property value estimates obtained through application of the approaches to value.
*Prerequisite: REA 4381, or satisfactory completion of an equivalent appraisal course approved by the N.C. Real Estate Commission. (Offered Winter quarter.) (3-0) 3

***REA 4383 Applied Residential Property Valuation (R-3):** This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and procedures to the appraisal of residental 1-4 unit properties and small farms. Students are first acquainted with federal laws / regulations applicable to appraisers and the provisions of the North Carolina Real Estate Appraisers Act and related Commission Rules. Then, coverage of the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules), followed by coverage of appraisal reports, with emphasis on standard report forms. Students participate in a comprehensive case study of an appraisal of a single-family house using the URAR form. Instruction is provided on various special considerations in appraising other types of residential 1-4 unit properties and in appraising farms. Finally, students are introduced to appraising special (partial) property interests and to condemnation appraisals.
*Prerequisite: REA 4382, or satisfactory completion of an equivalent appraisal course approved by the N.C. Real Estate Commission. (Offered spring quarter.) (3-0) 3

***REA 4385 Intoduction to Income Property Appraisal (G-1):** This course introduces concepts and techniques used to appraise real estate income properties. It begins with a discussion of underlying economic principles and motivations for investing in income property. The appraisal process is reviewed with emphasis on income property. This is followed by a discussion of real estate market analysis, property analysis, and site valuation. Mathematical and statistical concepts used in the appraisal of income property are covered, followed by coverage of how to use financial tables and/or financial calculators to solve a variety of problems associated with analysis of real estate income properties, including present value, loan calculations, estimation of net operating income, and estimation of before tax cash flow. Students learn how to estimate the value of a real estate income property by using a gross income multiplier and by direct capitalization with an overall rate. Finally, they are intoduced to other capitalization rates.
*Prerequisite: REA 4383, or satisfactory completion of an equivalent appraisal course approved by the N.C. Real Estate Commission. (Offered fall quarter.) (3-0) 3

***REA 4386 Advanced Income Capitalization Procedures (G-2):** This course reviews and then expands on the concepts introduced in Course G-1. The direct capitalization techniques introduced in G-1 are expanded to include various band of investment and residual techniques used in income property appraisal. This is followed by a thorough discussion of the concepts of yield rates and of discounted cash flow analysis (yield capitalization), which is the primary focus of the course. Financial leverage is also discussed so students better understand the relationship between various yield rates and capitalization rates. Several traditional yield capitalization formulas including Inwood, Hoskold, Ellwood and Akerson are then discussed. Although rendered oblsolete by the advent of financial calculators, these formulas are still used by many appraisers and students should be familiar with them. A financial calculator is required for this course.
*Prerequisite: REA 4385, or satisfactory completion of an equivalent appraisal course approved by the N.C. Real Estate Commission. (Offered winter quarter.) (3-0) 3

***REA 4387 Applied Income Property Valuation (G-3):** This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and practices to the appraisal of income properties. The course begins with a review of federal laws/regulations applicable to appraisers, followed by coverage of the North Carolina Real Estate Appraisers Act and Related Commission Rules, and coverage of the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules). Preparation of narrative appraisal reports is covered, with students also being introduced to the Uniform Commercial and Industrial Appraisal Report (UCIAR) form. Coverage then shifts to appraising leased income properties, with emphasis on the effect of various lease provisions on the value estimate. Students participate in highest-and best-use case studies, followed by case studies of appraisals of various development projects.
*Prerequisite: REA 4386, or satisfactory completion of an equivalent appraisal course approved by the N.C. Real Estate Commission. (Offered spring quarter.) (3-0) 3

Recreation – See HPE

RES – Real Estate

RES 3601 Fundamentals of Real Estate (Sales Prelicensing): This course provides students with basic knowledge and skills necessary for entry-level sales and assists students to prepare for the state real estate sales licensing examination. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: basic real estate concepts; property ownership and interests; transfer of title to real property; title assurance and property descriptions; land use controls; real estate brokerage and the law of agency; fair housing legislation; basic contract law, listing contracts and contracts for the sale of real estate; landlord and tenant and leases; N. C. Real Estate License Law, Commission Rules/Regulations and Trust Account Guidelines; mortgages, deeds of trust and real estate financing practices; closing real estate transactions; basic residential building construction; real property valuation; real estate management; property insurance; and federal income tax implications of home ownership. (Offered every quarter.) (6-0) 6

***RES 4301 Real Estate Law (Broker Prelicensing):** This course provides students with knowledge of real estate law necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in

the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: introduction to real estate law; property ownership interests, including real estate taxes; transfer of title to real property; land use controls; real estate brokerage and the law of agency; real estate contracts; landlord and tenant; federal income taxation of real estate; License Law, Commission Rules/Regulations and Trust Account Guidelines; securities law; and closing real estate transactions.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the N.C. Real Estate Commission, or a current N. C. real estate license, or consent of Department Head. (Offered fall, winter and spring quarters.) (3-0) 3

***RES 4302 Real Estate Finance (Broker Prelicensing):** This course provides students with knowledge of financing real estate transactions necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: financing instruments; types of mortgage loans; sources of mortgage funds; the secondary mortgage market; loan underwriting; consumer legislation affecting real estate financing; and real property valuation.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of Department Head. (Offered fall, winter and spring quarters.) (3-0) 3

***RES 4303 Real Estate Brokerage Operations (Broker Prelicensing):** This course provides students with the basic practical knowledge of real estate brokerage operations necessary to enable entry-level real estate brokers to operate or manage a real estate brokerage practice in a manner which protects and serves the public interest. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: introduction to real estate brokerage operations; establishment of a brokerage firm; management; personnel operations; records and bookkeeping system; and financial operations.
*Prerequisite: RES 4301 and 4302, or completion of equivalent prelicensing courses approved by the N. C. Real Estate Commission, or a current N. C. real estate license, or consent of Department Head. (Offered fall, winter and spring quarters. (3-0) 3

***RES 4311 Residential Real Estate Sales:** This course is designed to help residential real estate brokerage students prepare to achieve high listing and sales productivity. Upon completion of this course, students should be able to set realistic personal productivity goals; establish a personal time-management system; describe methods for obtaining and servicing listings, including farming and FSBO cultivation; write ads and understand advertising strategies; develop a marketing plan, describe methods to obtain prospective buyers; qualify buyers; demonstrate proper telephone techniques; describe techniques for showing properties, obtaining purchase offers and closing sellers, and explain how to build a personal referral service.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the N. C. Real Estate Commission, or current N. C. real estate license, or consent of Department Head. (Offered winter quarter.) (3-0) 3

RES 4315 Governmental Land Use Controls: This course surveys regulations of great importance in the development and use of land. It helps brokers and salesagents learn how to obtain and provide purchasers reliable information on purposes for and conditions under which land may be used. Upon completion of this course, students should be able to state the principal functions of the local planning commission and Departments of zoning, building standards and environmental health, and other agencies involved in controlling land use; discuss the contents and implementation of county long-range plans, zoning and subdivision ordinances, and other regulations of land use; explain procedures for obtaining zoning amendments, variances and special use permits; and state how to determine the uses for which a given tract of land may be developed and the kinds of improvements permitted and required on it. (Offered fall quarter.) (3-0) 3

RES 4371 Real Estate Property Management: This introductory course surveys the management of rent-producing retail, office, and apartment properties to achieve investment objectives of client owners. Upon completion of this course, students should be able to describe the management industry and profession; estimate financial benefits to property owners; illustrate utilization of the management plan; explain the manager's relations with client owners; discuss marketing, leasing, and tenant administration; describe techniques for staffing, operating, and maintaining properties; and discuss the basics of operating a management office, locating clients, and negotiating management contracts. (Offered fall quarter.) (3-0) 3

***RES 4391 Commercial and Industrial Real Estate:** This course is designed to help students gain knowledge in selling, leasing, and managing commercial and industrial real estate. The real estate practitioner should acquire increased professional understanding of commercial and industrial development and marketing, and of brokerage office operations. Upon completion of this course, students should be able to discuss and explain those unique characteristics of commercial and industrial properties which are of importance from the viewpoints of users, investors, lenders, developers, and community planners; demonstrate decision-making ability in situations applicable to selecting, leasing, investing capital, developing, marketing and managing commercial and industrial properties; and show an understanding of brokerage office operations.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of Department Head. (Offered winter quarter.) (3-0) 3

***RES 4393 Real Estate Investment Analysis:** This course is designed to help students acquire knowledge and skill in analyzing and marketing investment real estate. It includes demonstration of applications of a personal computer. Upon completion of this course, students should be able to do the following in connection with a particular investment property: specify the data and information needed to carry out an investment analysis; estimate projected gross income to, operating expenses for, and net operating income to the property; estimate effects of financing to obtain before-tax cash flow to equity; estimate effects of ordinary income tax to obtain after-

tax cash flow to equity; estimate proceeds of resale after capital gains tax; calculate both internal and financial-management rates of return on investment; and prepare an appropriate report of the findings of the investment analysis.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the N. C. Real Estate Commission, or a current N. C. real estate license, or consent of Department Head. (Offered winter quarter.) (3-0) 3

***RES 4395 Commercial Real Estate Finance:** This course is designed to help students and practicing professionals gain knowledge in assembling, analyzing, and presenting requests for the financing of commercial real estate projects. The real estate practitioner should acquire increased professional understanding of the analytical methods and techniques utilized in commercial real estate finance, as well as a working knowledge of the factors involved in a request for financing a project. Upon completion of this course, students should be able to assemble information necessary and sufficient for preparing a satisfactory loan presentation package; analyze the data to ascertain project feasibility and insure completeness; and prepare a presentation request for a commercial real estate loan; attain, through negotiation and interviewing techniques, a degree of comfortable competence in assisting the borrower to present the loan request to the lending institution.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the N. C. Real Estate Commission, or a current N. C. real estate license, or consent of Department Head. (Offered spring quarter.) (3-0) 3

Real Estate Appraisal – See REA

RTH – Respiratory Care Technology

***RTH 3202 Introduction to Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to define terms used in respiratory pathology and diagnosis; use a stethoscope to identify normal and abnormal breath sounds and make clinical correlations; recognize normal anatomical landmarks and common abnormalities associated with chest radiographs; demonstrate knowledge of anatomy of upper and lower airway; gather pertinent information from a patient's chart to include history, physical exam, and laboratory data; describe the technique and uses of diagnostic procedures including sputum exam, endoscopy, bronchoscopy, pulmonary angiography, lung scanning, computerized tomographic scanning, pulmonary function studies, arterial blood gases; and list and describe diseases of the upper respiratory tract.
*Prerequisite: RTH 3601; Corequisites: RTH 3602, BIO 1503. (2-0-0) 2

***RTH 3304 Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to recognize and discuss the etiology, pathology, lab findings, and clinical manifestations of infectious diseases of the lower respiratory tract including viral, mycoplasma, and bacterial pneumonias; explain the pathology of chronic obstructive and restrictive pulmonary diseases; list the various types of pulmonary carcinomas; discuss the physiologic alterations of the lung caused by extra-pulmonary sources; explain and list conditions of the nervous system which could lead to respiratory failure; recognize and list causes of ARDS; explain the pathology and clinical findings in disorders of pulmonary diseases due to mycobacteria; explain the different immunologic diseases of the lung; discuss the nutritional status of critical care patients; recognize normal and abnormal lab values; and explain and discuss the general pathologic process of renal failure.
*Prerequisite: RTH 3202; Corequisite: RTH 3702. (2-2-0) 3

***RTH 3305 Respiratory Pharmacology:** Upon completion of this course, students should be able to apply general principles of pharmacology terminology and mechanisms of drug action; use current reference standards; read and interpret a prescription; compute dosages, determine ratios and percent, and prepare solutions of airway dialators; describe the pharmacology of mucokinetic substances; their preparation, and method of administration; list and describe antibiotics used in the treatment of pulmonary infections; explain the pharmacologic effects of drugs commonly seen in overdose situations; explain the mechanism of action and list commonly used muscle relaxants; explain the mechanism of action and list commonly-used drugs affecting central respiratory centers, including commonly-encountered drugs producing sedation, hypnosis, anesthesia, and stimulants; diagram or otherwise discuss normal renal function and explain mechanism of action of commonly-used diuretics; and discuss corticosteroids in respiratory care.
*Prerequisite: RTH 3601; Corequisites: RTH 3202, RTH 3602. (3-0-0) 3

***RTH 3601 Introduction to Respiratory Care:** Upon completion of this course, students should be able to describe the major developments in medicine and science as they relate to the historical aspects of respiratory care; list and describe the professional and accrediting organizations; explain the roles and responsibilities of the various respiratory care practitioners; use the English and metric systems of measurement interchangeably; read a patient chart; utilize physical laws describing the behavior of gases applicable to respiratory care; recognize, evaluate, and recommend methods of treating oxygenation abnormalities; assemble, operate, and supply equipment used to administer medical gas therapy; and describe the functions and interdependence of the cardiovascular and respiratory systems.
*Prerequisite: Admission to Respiratory Care Technology program. (4-0-6) 6

***RTH 3602 Respiratory Care Proceedures I:** Upon completion of this course, students should be able to identify clinical situations and properly apply humidity and aerosol devices with associated oxygen-delivering capabilities; describe normal mucus clearing mechanisms; discuss normal humidification by airway; assemble and compare nebulizers and humidifiers and discuss their function; describe hazards associated with humidity and aerosol therapy; deliver, monitor, and evaluate aerosolized pharmacologic agents to patients with and without artificial airways; discuss types of and correct procedure for administering incentive breathing devices; list indications and contraindications of bronchopulmonary drainage, chest percussion and chest vibration; and correctly perform the basic steps of physical examination to include reviewing and gathering data from patient record, inspection and palpation and auscultation.
*Prerequisites: RTH 3601, BIO 1504, MAT 1504. (2-4-6) 6

***RTH 3702 Respiratory Care Procedures II:** Upon completion of this course, students should be able to read and interpret results from arterial blood gas analysis; perform and

evaluate methods of bronchopulmonary drainage; identify and use artificial airways; manage the airways of patients requiring artificial airways; recognize complications and describe procedures designed to prevent complications of patients with artificial airways; complete a comparative assessment of and use manual resuscitators; calibrate and use selected gas analyzers; and become certified by the AHA in basic cardiac life support.
*Prerequisites: RTH 3602, BIO 1505; Corequisite: BIO 3404. (2-4-9) 7

***RTH 4415 Equipment for Continuous Ventilation:** Upon completion of this course, students should be able to classify selected ventilators; discuss compliance and how it relates to ventilator performance; list and describe the cycling mechanism and mode of operation of selected ventilators; trace gas flows from power source to patient in selected ventilators; describe a protocol for the cleaning and sterilization of selected ventilators; identify and recognize nosocomial infections and recommend effective methods of infection control; participate in a hospital equipment processing program; list testing procedure for selected ventilators prior to patient use; calibrate and operate selected positive pressure breathing devices; and summarize and discuss indications, hazards implementation and methods of monitoring IPPB therapy.
*Prerequisites: RTH 3702, PHY 3414; Corequisite: RTH 4814. (2-4-0) 4

***RTH 4417 Neonatal and Pediatric Respiratory Care:** Upon completion of this course, students should be able to compare fetal and neonatal cardiopulmonary anatomy and physiology; list maternal risk factors; describe newborn scoring systems; relate the events of birth in terms of ventilation and perfusion; describe indications and techniques for neonatal resuscitation; list the common causes of acute respiratory failure in neonates; discuss the rationales of ventilatory support in neonates; review considerations in stabilizing and transporting neonates; write a case report; delineate the special respiratory care needs of children; and list the common causes of acute respiratory failure in children.
*Prerequisite: RTH 4814; Corequisite: RTH 4724. (2-0-6) 4

***RTH 4504 Pulmonary Function I:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flowrates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity; describe normal and abnormal responses to exercise; and explain techniques of exercise testing.
*Prerequisites: RTH 4724, ENG 1504; Corequisite: RTH 4505. (2-0-9) 5

***RTH 4505 Pulmonary Function II:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flowrates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity; describe normal and abnormal responses to exercise; and explain technique of exercise testing.
*Prerequisite: RTH 4724; Corequisite: RTH 4504. (2-2-6) 5

***RTH 4606 Clinical Application I:** Upon completion of this course, students should be able to provide respiratory care to patients in critical care settings; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel; discuss the ethical considerations of respiratory care; participate in the delivery of respiratory care in the home; outline a program of cardiorespiratory care in the home; outline a program of cardiorespiratory rehabilitation; and become certified by the AHA as an instructor in BCLS.
*Corequisite: RTH 4607. (2-0-12) 6

***RTH 4607 Clinical Application II:** Upon completion of this course, students should be able to provide respiratory care to patients in critical care settings; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel; discuss the ethical considerations of respiratory care; participate in the delivery of respiratory care in the home; outline a program of cardiorespiratory rehabilitation; and become certified by the AHA as an instructor in BCLS.
*Prerequisite: RTH 4505; Corequisite: RTH 4606. (2-0-12) 6

***RTH 4724 Continuous Ventilation:** Upon completion of this course, students should be able to list indications for using mechanical ventilation; given flow and pressure patterns, identify the type ventilator exemplified; list clinical situations requiring the use of volume controlled ventilators; explain the indications and procedures for weaning patients from ventilators; explain the indications and procedures for establishing intermittent mandatory ventilation, positive and expiratory pressure, expiratory resistance, inspiratory plateau and pressure support ventilation; interpret arterial blood gas values; and make appropriate ventilator changes.
*Prerequisite: RTH 4415; Corequisite: RTH 4417. (3-2-9) 7

***RTH 4814 Introduction to Emergency and Intensive Respiratory Care:** Upon completion of this course, students should be able to monitor correctly parameters of ventilation; implement selected therapeutic procedures in critical care units; demonstrate ability to establish, maintain, and recognize normal and abnormal data associated with invasive cardiovascular procedures; discuss and relate the pharmacologic effects of cardiovascular agents; recognize and discuss normal ECG patterns and basic cardiac arrhythmias; perform endotracheal intubation on an adult and infant model; obtain and analyze an arterial blood sample; and demonstrate ability to maintain and monitor established airways.
*Prerequisites: RTH 3702, BIO 3404. (2-2-15) 8

RUS – Russian

RUS 1600 Elementary Russian I: Upon completion of this course, students should be able to use the Cyrillic alphabet, the basic declensions of nouns, pronouns, and adjectives, and some conjugations of verbs. With a knowledge of some basic vocabulary, students should be able to apply these constructions in simple, grammatically correct sentences orally, as

well as in written composition. Students should be able to translate simple sentences from Russian into English and English into Russian. (5-2) 6

***RUS 1601 Elementary Russian II:** By the end of this continuation of Elementary Russian, students should be able to use basic vocabulary and grammar to read, to translate orally, and to write basic sentence patterns from Russian to English and English to Russian at the first-year level. They should also be able to converse in simple sentences.
*Prerequisite: RUS 1600 or equivalent. (5-2) 6

SEC – Secretarial/Office Information Systems

SEC 3104 Electronic Calculators: Upon completion of this course, students will be able to operate ten-key electronic calculators using the touch system. Functional keys, special feature keys, and memory will be emphasized and reinforced through application to business-type problems. (0-2) 1

SEC 3301 Legal Terminology and Vocabulary: Upon completion of this course, students will be able to demonstrate an extensive knowledge of legal terminology and vocabulary including definitions, usage, derivations, and spelling. (3-0) 3

SEC 3302 Effective Word Techniques: Upon completion of this course, students will show proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary. (3-0) 3

SEC 3303 Keyboarding: Keyboarding will be taught on a computer. Upon completion of this course, students should be able to key by touch the letters of the alphabet, numbers, symbols, and the 10-key numeric keyboard. Emphasis will be placed on correct technique and accuracy. Proficiency test may be taken for this course. (1-4) 3

SEC 3305 Editing, Proofreading, and Reference Skills: Upon completion of this course, students will be able to use a variety of reference materials to answer specific questions regarding punctuation, grammar, capitalization, number usage, abbreviations, format, and document transmission as they relate to the preparation of business letters, memoranda, and reports. In addition, students will be able to proofread materials for accuracy. (3-0) 3

SEC 3311 Receptionist Skills: Upon completion of this course, students should be familiar with operation of key telephone devices used by a receptionist; be knowledgeable concerning effective public relations attitudes and skills that project a positive company image; be efficient in such job-related tasks as making appointments, recording messages, receiving and screening calls and callers, processing company mail, controlling petty cash accounts, and maintaining bulletin boards. (3-0) 3

SEC 3312 Introduction to Word Processing: Upon completion of this course, students will be introduced to creating, retrieving, editing, manipulating, and printing documents of various sophistication on a microcomputer. (2-2) 3

SEC 3320 Personal Projection: Upon completion of this course, students will be able to recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis will be placed on grooming and methods of personality improvement. (3-0) 3

***SEC 3405 Document Formatting I:** Upon completion of this course, students will demonstrate a further mastery of correct typewriting techniques to be applied in tabulations, manuscripts, and correspondence. Individualized and self-instructional methods are employed. Minimum speed requirement: 30 words per minute for 3 minutes.
*Prerequisite: SEC 3303 or equivalent. (3-2) 4

***SEC 3406 Document Formatting II:** In this course, students will begin to function as expert typists producing mailable copies. The production units will involve tabulations and correspondence. Minimum speed requirement: 35 words per minute for 5 minutes.
*Prerequisite: SEC 4429 and SEC 3405, or equivalent.(3-2) 4

***SEC 3414 Shorthand I:** Upon completion of this course, students will demonstrate a knowledge of shorthand theory. The emphasis will be on phonetics, penmanship, word families, brief forms, and phrases. Proficiency test may be taken for this course.
*Corequisites: ENG 1504, SEC 3303, or equivalent, or Departmental consent. (3-2) 4

***SEC 3415 Shorthand II:** Upon completion of this course, students will demonstrate a greater mastery of Gregg shorthand theory with greater emphasis on dictation and elementary transcription. They should also be able to take and transcribe at the typewriter new material at 60 words per minute for 3 minutes. Proficiency test may be taken for this course.
*Prerequisite: SEC 3414; Corequisites: ENG 3515, SEC 3405, SEC 3305, or equivalent, or Departmental consent. (3-2) 4

***SEC 3416 Shorthand III:** In this course, students will continue to review shorthand theory and to build speed. Emphasis will be on development of speed in dictation and accuracy in transcription. Upon completion of this course, students will be able to take and transcribe new material at 80 words per minute and mailable items at 70 words per minute
*Prerequisites: SEC 3415 or equivalent, ENG 3515, SEC 3305; Corequisite: SEC 3406 or Departmental consent. (3-2) 4

***SEC 4201 Secretarial Cooperative Experience I:** In this course, students are placed in an office environment in the Charlotte business community. Upon completion of this course, they should be able to demonstrate the ability to communicate effectively with others, accept responsibilities of promptness and personal neatness; and learn company and Department practices and procedures. In addition, they will be able to integrate their classroom training with on-the-job experience.
*Prerequisite: Departmental consent. (0-20) 2

***SEC 4202 Secretarial Cooperative Experience II:** Students will continue to work in an office environment in the Charlotte business community. Upon completion of this course, they will be able to demonstrate competently the ability to communicate effectively with others, to accept responsibility for promptness and personal neatness, and to perform

company and Department practices and procedures. In addition, they will have integrated their classroom training with on-the-job experiences.
*Prerequisite: Sec 4201. (0-20) 2

***SEC 4305 Business Communications:** Upon completion of this course, students will have developed effective techniques for composing business letters and other forms of business communications.
*Prerequisites: ENG 1504, ENG 3515, or Departmental consent. (3-0) 3

SEC 4324 Information Processing Concepts: This is a concepts course designed for support staff and managers or professionals who currently use or are interested in using computers in their work. It provides a perspective of the evolution and impact of word and information processing on the automated office. Upon completion of this course, students will understand concepts of system configuration, document production, communication, distribution, storage and retrieval, document protection, and the relationship of the office employee to the word processing environment. (3-0) 3

SEC 4370 Records Management: Upon completion of this course, students will know the fundamentals of indexing and filing. Theory and practice are combined by the use of miniature letters, filing boxes and guides. Topics studied will include alphabetic name, geographic, subject, and numerical filing. (3-0) 3

***SEC 4400 Typing Skill Building:** Upon completion of this course, students will have improved accuracy and speed in typewriting, using an individualized, diagnostic, prescriptive approach.
*Prerequisite: Students must know the typewriter keyboard. (3-2) 4

***SEC 4407 Document Production:** Upon completion of this course, students will be able to type a series of projects in a mailable format. In addition, the course will review the fundamental principles of typewriting as they apply to production work with special emphasis on unarranged and uncorrected material. Minimum speed requirement: 55 words a minute for 5 minutes.
*Prerequisite: SEC 3406. (3-2) 4

***SEC 4409 Legal Document Production:** Upon completion of this course, students will be able to keyboard 60 words per minute for 5 minutes on straight-copy material with no more than 5 errors; produce problems of a mailable nature dealing with litigation, family law, negligence, business organizations, wills and estates, real estate, and bankruptcy; increase their legal vocabulary and knowledge of legal office procedures.
*Prerequisites: SEC 3406, SEC 4429. (3-2) 4

***SEC 4416 Medical Document Production:** Upon completion of this course, students should be able to type 55 words per minute for 5 minutes on straight-copy material with no more than five errors; produce problems of a mailable nature typical of those required in a medical office; improve their medical vocabulary and knowledge of medical office procedures; complete a variety of medical insurance claims.
*Prerequisite: SEC 3406. (3-2) 4

***SEC 4425 Machine Transcription:** Upon completion of this course, students will be able to operate a transcribing machine and will have transcribed various kinds of communications at the computer into mailable form. Emphasis will be placed on grammar and proofreading.
*Prerequisites: ENG 3515 and SEC 4429, or Departmental consent. (3-2) 4

***SEC 4429 Word Processing I:** Upon completion of this course, students will demonstrate the ability to create, edit, and manipulate documents of various sophistication on a microcomputer using a word processing software package.
*Prerequisite: SEC 3405 or Departmental consent. (3-2) 4

***SEC 4430 Word Processing II:** Upon completion of this course, the student will have a working knowledge of the advanced features of word processing software including macros, styles, tables, and graphics.
*Prerequisite: SEC 4429 or Departmental consent. (3-2) 4

***SEC 4448 Legal Shorthand:** In this course, students will be able to demonstrate the ability to take in shorthand and then transcribe rapidly and accurately legal documents, instruments, and correspondence. Shorthand shortcuts for the legal vocabulary will be presented, and law office procedures will be emphasized. Upon completion of this course, students should be able to take and transcribe at the typewriter dictation at a minimum rate of 70 words a minute for 3 minutes and mailable items at a minimum rate of 60 words a minute.
*Prerequisites: SEC 3415, SEC 3301, or Departmental consent. (3-2) 4

***SEC 4517 General Office Procedures:** Upon completing this course, students will be able to demonstrate how to handle secretarial responsibilities such as receiving office visitors, handling the mail, telephone, planning travel, preparing financial records, purchasing supplies, organizing the desk and office, using reprographic services. They will also be able to prepare a resume, an application letter, an application form, and a follow-up letter.
*Prerequisite: SEC 3406 or Departmental consent. (5-0) 5

SEC 5200 Computer Keyboading: Upon completion of this course, students will be able to input alphabetic and numeric characters on a microcomputer using the touch system of typing. (1-2) 2

SOC – Sociology

SOC 1301 Group Interaction: This is a course designed to enhance students' understanding of group process and dynamics. Upon completion, they should demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

SOC 1500 Sociology of the Family: This is a course designed to help students develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course, students should demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development. (5-0) 5

SOC 1505 Sociology of Religion: Upon completion of this course, students should be able to describe the sociological perspective on religious behavior; trace the origin and development of religion; list the types and characteristics of religious conversion; compare and contrast religious systems in various cultures; and describe how religion interacts with other social institutions such as politics, the economy, and the class system. (5-0) 5

SOC 2514 Introduction to Sociology: This is a course designed to introduce students to the discipline of sociology. Upon completion, they should demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

SOC 2515 Social Problems: This is a course which concentrates on America's social problems. Upon completion, students should demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result from these conditions. Proposals for reform will be examined. (5-0) 5

***SOC 2524 Special Problems of Sociology:** This is a course for advanced students who have been approved by the Department Head. Students will consult with a Departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged.
*Prerequisite: Consent of Department Head and instructor. (5-0) 5

Social Services – See SWK

SPA – Spanish

^ *Satisfies humanities requirement.*

SPA 1600 Elementary Spanish I: Upon completion of this course, students will have a knowledge of some basic elements of Spanish in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

***SPA 1601 Elementary Spanish II:** This is a continuation of SPA 1600. Students will learn basic elements of conversation, reading, and writing. Tapes, filmstrips, movies and extensive conversation in the classroom. (Does not satisfy humanities requirement.)
*Prerequisite: SPA 1600 within previous two quarters or Departmental consent. (5-2) 6

***SPA 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. The class meets for oral reports and discussion.
*Prerequisite: SPA 2600 within two previous quarters or consent of Department Head. (3-0) 3

^***SPA 2600 Intermediate Spanish I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary, combined with study of idiomatic forms and grammatical structures in selected readings.
Note: SPA 2600 and SPA 2601 combined will satisfy humanities requirement.
*Prerequisite: SPA 1601 within previous two quarters, two high school units, or Departmental consent. (5-2) 6

^***SPA 2601 Intermediate Spanish II:** Upon completion of this course, students will have completed a review of grammar, along with readings in Spanish with emphasis on people and events.
Note: SPA 2600 and SPA 2601 combined will satisfy humanities requirement.
*Prerequisite: SPA 2600 within previous two quarters or Departmental consent. (5-2) 6

SPH – Speech

SPH 1300 Oral Communications: Upon completion of this course, students should be able to demonstrate basic communication skills when speaking before an audience, using the fundamental techniques of preparation, organization, and delivery. They will also participate in group discussions and demonstrate appropriate listening behavior. (3-0) 3

SPH 1301 Persuasive Speaking: Upon completion of this course, students should be able to show through the use of analysis, evidence, and reasoning patterns that attitudes, actions, and beliefs may be altered. Persuasive methods of evaluative and actuative claims will be emphasized. (3-0) 3

SPH 2101 Parliamentary Procedure: Upon completion of this course, students should be able to participate in business, professional, labor, service, and fraternal organizations that use the rules of parliamentary procedure. (1-0) 1

SPH 2300 Voice and Diction: Upon completion of this course, students should be able to pronounce the sounds of standard American English, identify them in simple words, and employ the sounds through individual readings. They should be able to demonstrate proper breath control, volume, pitch rate, phrasing, and vocal variation. (3-0) 3

***SPH 2302 Voice and Diction II—Oral Interpretation:** Upon completion of this course, students should be able to interpret the mood, emotion, and meaning of selected prose and poetry with voice, mind, and body. Emphasis will be placed on the understanding of the literature and the ability to interpret with integrity the meaning of a literacy selection and to communicate this meaning to an audience.
*Prerequisites: Any of the following courses-- SPH 1300, SPH 1301, SPH 2300, SPH 2304, DRA 1303, DRA 1304, DRA 2303, DRA 2306, or consent of the instructor. (3-0) 3

SPH 2304 Public Speaking: Upon completion of this course, students should be able to prepare and deliver the following speeches: informative, entertaining, and persuasive. In addition, they should be able to introduce a speaker, present and accept awards, and deliver impromptu speeches. (3-0) 3

SPH 3300 Business and Professional Speech Communication: Upon completion of this course, students should be able to identify and discuss the role of communication in an organization, apply learned skills for effective participation in a variety of interview situations, demonstrate skills necessary for the management and participation of meetings, and prepare and deliver speeches appropriate for a business or professional environment. (3-0) 3

SWK – Social Service

SWK 3202 Crisis Intervention: Upon completion of this course, students should be able to identify and discuss the emotional and physical bases of stress/anxiety; identify and define real-life crises of alcohol and drug abuse, bereavement, suicide, grief and loss, individual and group psychiatric emergencies, and special problems; identify and discuss the major factors and characteristics of a disaster and community crisis to include psychological shock, post-traumatic stress disorder and psychological epidemic; identify appropriate methods of crisis intervention; demonstrate appropriate skills of crisis intervention. (2-0-0) 2

***SWK 3414 Helping Relationship - Advanced Technique:** Upon completion of this course, students should be able to identify and distinguish appropriate responses in the initial and continuous helping relationships, to include helper assertiveness and client motivation; discuss the force-field analysis of problem solving, to include identifying and clarifying the client's problems and establishing the client's priorities, establishing client's goals and implementing tasks, reviewing and evaluating the client's progress; demonstrate a more effective skill of helping by the use of feeling discrimination, concreteness, confrontation and alternative action, decision making, and problem solving .
*Prerequisite: HSA 3604. (3-0-3) 4

SWK 3421 Helping and Behavioral Stress: Upon completion of this course, students should be able to identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; identify and define positive and negative factors of stress and identify methods for defining and coping with individual anxiety; identify and define real-life crises of alcohol and drug abuse, suicide, bereavement, grief and loss, maturation, the family, and individual psychiatric emergencies; define and discuss the association to crisis/stress of anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; identify and discuss the major factors and characteristics of a disaster and community crisis, to include psychological shock; psychiatric epidemic, and post-traumatic stress disorder; identify methods of psychological helping for persons in crisis and appropriateness of such crisis intervention to specific behavioral problems; demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. (4-0-4) 4

***SWK 3600 Community Organization and Casework Preparation:** Upon completion of this course, student should be able to identify and define a Human Services paraprofessional; identify and describe roles and correlated activities that an HSA worker might play in social change in a local neighborhood or community; identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; identify and describe the scientific method of problem solving; identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; identify the major organizational structure of human resources at federal, state and local levels, to include functions and practices; identify and describe strengths and weaknesses of current delivery systems; observe behavior and record significant observations in simple descriptive form; identify documents in a case file and basic forms used in various agencies; identify facilitative methods of questioning in a helping interview; identify various non-verbal and verbal cues in a helping interview; demonstrate the use of appropriate questions, statements, and non-verbal responses in a helping interview .
*Prerequisites: HSA 3340, HSA 3341, and permission of Program Director. (3-0-9) 6

***SWK 3604 Helping Relationship - Technique:** Upon completion of this course, students should be able to discuss the Model of Facilitation, identifying the levels of a helping relationship and their characteristics as found in the Model; identify non-verbal communication behaviors of time, body, and voice and discuss their effect in the helping relationship; identify closed and open questions and discuss their use in the helping relationship; identify and distinguish appropriate and inappropriate responses and leads; demonstrate effective use of appropriate responses and leads.
*Prerequisites: HSA 3600, permission of Program Director. (3-0-9) 6

SWK 4103 Stress Management: Upon completion of this course, students should be able to define stress as it occurs in both personal and professional situations; identify methods for assessing stress and for managing stressful situations; evaluate individual stress and coping patterns. (1-0-0) 1

SWK 4505 Helping Relationship - Theory: Upon completion of this course, students should be able to identify the basic principles of various techniques used in helping, to include: Psychoanalysis, Existential-Humanistic, Behavior Modification, Transactional Analysis, Rational-Emotive, Client-Centered, Gestalt, Reality, Group, and others; discuss the theory of human behavior which forms a basis for each technique; identify major founders/contributors to each theory/technique; describe how each technique is used with clients, identifying advantages and disadvantages, positive and negative aspects, of each technique; compare and contrast the various theories and techniques . (5-0-0) 5

***SWK 4508 Senior Internship:** Upon completion of this course, students should be able to discuss thoroughly the work experience in the student's specialty area; discuss the procedures, treatment methods, and service techniques of the agency where the student interns; complete an in-depth research project as a major contribution to the student's Human Service program selected in consultation with the instructor; maintain twelve hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship .
*Prerequisite: By permission of Program Director only. (1-0-12) 5

SWK 4511 Introduction to Social Welfare: Upon completion of this course, students should be able to define social welfare and its relationship to social work in the United States; discuss the social, historical, and political development of the American Social Welfare System and its institutions; identify and discuss recent trends in social welfare, including the identification of current legislation (laws, bills) affecting the system; discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; discuss the condition and extent of poverty in the United States today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. (5-0-0) 5

SWK 4524 Helping Interview I: Upon completion of this course, students should be able to demonstrate self-awareness and identify the concepts of worker-client interaction through value clarification of the agency/program clientele, and the helping process; identify and demonstrate good attending skills and the use of appropriate questions to elicit information; identify and demonstrate skills of listening, feedback, and feeling discrimination toward the client; identify methods of client referral to other services and/or agencies. (2-0-9) 5

SWK 4609 Caseload Management: Upon completion of this course, students should be able to describe the Social Service worker caseload, its rules and procedures, and management within the total system; describe the Social Service administrative environment and the pressures it places on the worker; describe methods for prioritizing a caseload, planning, and delegation; describe methods for effective time management. (3-0-9) 6

Traffic And Transportation – See TRN

TAT – Travel and Tourism Technology

TAT 3200 Travel and Tourism Etiquette: In this course, students will review those social skills important to deportment in public situations. There will be a general review of table manners, restaurant and meeting etiquette, dress standards, and general interpersonal manners. (2-0) 2

TAT 3300 Introduction to the Travel Industry: Upon completion of this course, students should have a basic understanding of the modern travel and tourism business. A variety of elements will be discussed, including the economic and social impact of the industry. (3-0) 3

TAT 3301 Agency Operations: Upon completion of this course, students should be able to describe the functional areas within an agency; define the role of each functional area; describe the importance of budgeting; demonstrate control techniques; recognize the importance of customer service; explain agency arrangements and relationships with travel and tourism providers; describe market trends; and discuss ethics with regard to agency operations. (3-0) 3

TAT 4301 Tourism Marketing: Upon completion of this course, students should have basic insights into the tourism marketing process. Basic marketing concepts will be discussed. There will be basic work on surveying and survey techniques. Specifically, the course will look into the marketing of hotels, motels, airlines, resorts, restaurants, sporting events, attractions, etc. Advertising and public relations alternatives will be considered. (3-0) 3

TAT 4304 World Destinations & Resorts I: Upon completion of this course, students should have a broad knowledge of the major resorts and destinations in the Western Hemisphere. Special emphasis will be given to those in the United States. Major points of entry will be discussed.(3-0) 3

***TAT 4305 World Destinations & Resorts II:** Upon completion of this course, students should have a general background of the major resorts/tourism destinations in the Non-Western Hemisphere. Major tourism points of entry and interest will be discussed.
*Prerequisite: TAT 4304. (3-0) 3

TAT 4306 Group Arranging/Meeting Planning: Upon completion of this course, students should understand the basics of group tours, meetings, business meetings, incentive trips, and conventions. The course will cover how to book a group with a bus company, airline, hotel convention center, and attraction. (3-0) 3

TAT 4307 A History of Beverages: Upon completion of this course, students should have a basic understanding of major American, French, Italian, and German wine growing/areas. They will also have a basic understanding of distilled and brewed spirits. Students will learn serving techniques and the basics of beverage etiquette. (3-0) 3

TAT 4501 Hospitality Computer I: Upon completion of the course, students should understand how to make domestic airline reservations using an airline computer. They will learn how to access the computer for updated information, how to book a flight, how to make special requests, and how to make changes, additions, and deletions. (3-6) 5

***TAT 4502 Hospitality Computer II:** Upon completion of this course, students should have a basic understanding of the booking of international air flights. Included in the course are discussions about carrier codes, schedules, connecting times, and currency conversions.
*Prerequisite: TAT 4501. (3-6) 5

***TAT 4503 Hospitality Computer III:** Upon completion of this course, students should know how to use an airline computer to book limousines, rental cars, hotels, resorts, attractions, airline packages, etc. They will also learn how to access the computer for information and selling purposes.
*Prerequisite: TAT 4502. (3-6) 5

TAT 4504 Practicum I: Upon completion of this course, students should be able to relate their career goals to actual operations. Students will complete the course in specific area of interest. (1-20) 3

TRN – Traffic And Transportation

TRN 3300 Introduction to Transportation: This is an introductory course which surveys the entire field of transportation, transportation management, and the career opportunities available in the field. Upon completion of the course, students should be able to trace the development of

the transportation system as it exists in the United States; compare the various modes of transportation; explain the career opportunities in each area, including traffic management, sales and operations; describe briefly how rates are established; explain how highways are financed; describe briefly the regulatory aspects of the industry, including recent deregulation; describe the operational aspects and management of companies involved in transportation. (3-0) 3

TRN 3320 Motor Fleet Safety Management: This course is designed for the individual who is responsible for fleet safety within the trucking industry. It will emphasize hiring, training, supervision, and/or evaluating employees in the trucking industry. Upon completion of this course, students will be able to identify and describe the essential elements of a fleet safety program as prescribed by the American Trucking Association (ATA); apply DOT requirements in employee selection procedure; apply industry recommended procedures for training; demonstrate proper techniques in driver supervision as prescribed by the ATA. (3-0) 3

TRN 3350 Transportation Management: This is a course which examines the motor carrier industry. Upon completion, students should be able to identify and discuss classifications of motor carrier users, types of carriers, state and federal regulations and regulatory agencies; facilities and types of equipment. (3-0) 3

TRN 3351 Traffic Management: Upon completion of this course, students should be able to compare for-hire carriers and company-operated transportation as to services and costs; analyze and interpret freight tariff; explain freight classification and rate structure; identify various routing procedures; define in-transit arrangements, reconsignments, and diversions; apply procedures to avoid demurrage; describe documentation, and movement of export and import traffic; identify areas of carrier liability, and methods of processing freight claims. (3-0) 3

TRN 3360 Transportation Pricing: This is a problem approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carrier Rate Conference. Upon completion of this course, students should be able to discuss the classification, construction, and application of rates and charges, compute simple rate problems; and apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. (2-2) 3

TRN 4200 Cooperative Education I: Upon completion of this course, students should be able to evaluate their own interest in traffic and transportation as a career; identify job opportunities; complete a resume and employment application; participate in an employment interview; obtain employment to assess general requirements for successful employment in traffic and transportation; and evaluate their own capacity to comply with such demands. (2-0) 2

TRN 4351 Freight Claims: Upon completion of this course, students should be able to investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper-carrier can take to prevent damage from loss, damage, or delay. (3-0) 3

TRN 4356 Physical Distribution Management I: Upon completion of this course, students should be able to describe the movement and storage of finished goods from the end of the production line to the ultimate consumer; identify various segments involved in physical distribution; compare the advantages and disadvantages of each segment in order to make more cost-effective decisions. (3-0) 3

TRN 4358 Physical Distribution Management II: This is a course which examines warehousing from two perspectives - the user of public or private warehousing and the warehouse operator who handles them. Upon completion of this course, students should be able to describe the types of warehousing, public and private; user considerations; list and explain various management methods and concepts for the operator of a warehouse facility; recognize and describe the different types of equipment used in material handling. (3-0) 3

TRN 4375 Import Transportation Management: Upon completion of this course, students should be able to demonstrate a thorough understanding of import terminology; explain the process of importing and the associated support organizations, including legal and regulatory controls; apply practical knowledge in organizing and staffing an import Department; identify the responsibilities and services of overseas consolidation; process import documentation including the responsibilities of the clearing agent and U.S. Customs; select and utilize the proper carrier of import transportation; locate sources of information and special services; and identify and analyze trends and their impact on international transportation. (3-0) 3

TRN 4380 Export Transportation Management: Upon completion of this course, students should be able to demonstrate a thorough understanding of export terminology; explain the participants in exporting and associated supporting organizations; apply practical knowledge in organizing and staffing an export Department; identify the responsibilities and services of international freight forwarders, including legal and regulatory controls; write and process an export order, including transport by all modes of transportation, insurance coverage, and terms of payment; describe the use of freight consolidation and overseas distribution; identify and analyze trends and their impact on international transportation; and locate sources of information and special services. (3-0) 3

WLD – Welding

WLD 5203 Blueprint Reading for Welders I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines, dimensions, notes, and welding symbols; make pictorial sketches; interpret industrial drawings used in welding shops. (1-2) 2

***WLD 5204 Blueprint Reading for Welders II:** Upon completion of this course, students should be able to read and interpret industrial welding prints of a more complex nature; make sketches of welding assemblies; interpret detailed welding symbols.
*Prerequisite: WLD 5203 (1-2) 3

***WLD 5205 Welding Qualification Test:** Upon completion of this course, students should be able to satisfactorily complete a welding pretest on 1/4" and 3/8" carbon steel using

the shielded metal arc process with AWS E6010 and E7018 electrodes in the flat, vertical upward, and horizontal positions, and satisfactorily complete the AWS DI.1-92 qualification examination. This examination will be interpreted using radiographic procedures by a qualified outside testing agency.
*Prerequisites: WLD 5433, WLD 5421, WLD 5422; Corequisite: WLD 5267, or Program Director approval based on evidence of adequate institutional or on-the-job training. (0-6) 2

WLD 5210 Basic Oxyacetylene Welding: Upon completion of this course, students should be able to identify components, set up, calibrate, and operate the oxyacetylene welding equipment; demonstrate surface welding, brazing applications, and flame cutting methods applicable to mechanical repair work; identify and demonstrate safety precautions pertaining to oxyacetylene welding and cutting. (1-3) 2

WLD 5220 Basic Electric Arc Welding: Upon completion of this course, students should be able to describe the essentials of shielded metal arc welding; operate a rectifier type welding machine; weld the more common types of joints applicable to mechanical repair work in the flat position; identify and demonstrate safety precautions pertaining to shielded metal arc welding. (1-3) 2

***WLD 5240 Introductory Pipe Welding:** Upon completion of this course, students should be able to discuss pipe welding procedures, pipe and tubing measurements; discuss proper procedures for surface preparation, fitting, positioning, gap clearance, and tacking of pipe; demonstrate proficiency in oxyacetylene flame cutting of pipe and test specimens for guided bend test and document results; weld pipe using shielded metal arc welding process with E-6010 and E-7018 electrodes in the rolled position; demonstrate and practice safety precautions pertaining to shielded metal arc welding.
*Prerequisites: WLD 5433, WLD 5421, or Welding Program Director approval; Corequisite: WLD 5422. (1-3) 2

***WLD 5241 Flux Cored Arc Welding:** Upon completion of this course, students should be able to describe the essentials of flux cored arc welding; set up according to procedure and operate flux cored arc welding equipment; weld different types of joints in the flat, vertical, and horizontal position on steel plate; select welding current, shielding gases, and filler wires; identify and practice safety precautions pertaining to flux cored arc welding.
*Corequisites: WLD 5433. (1-3) 2

WLD 5250 Basic Gas Metal Arc Welding: Upon completion of this course, students should be able to identify components, calibrate, and operate the gas-metal arc welding equipment; weld different types of joints in the flat position applicable to mechanical repair work; select welding heats and shielding gases; describe and demonstrate safety precautions pertaining to gas metal arc welding. (1-3) 2

***WLD 5260 Welding Co-Op:** Upon completion of this course, students should be able to apply skills acquired in welding courses to actual working situations in the welding industry; produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of three quarters of Welding Program courses. (0-20) 2

***WLD 5267 Certification Practice:** Upon completion of this course, students should be able to weld various metals to meet CPCC standards using oxyacetylene, shielded metal arc, gas tungsten arc, and gas-metal arc welding processes; demonstrate safety precautions involved in using welding and other shop equipment and tools.
*Prerequisites: WLD 5450, WLD 5433, WLD 5421, WLD 5422, WLD 5431, WLD 5432; Corequisite: WLD 5268. (0-6) 2

***WLD 5268 Certification Testing:** Upon completion of this course, students should be able to discuss and perform various tests including guided bend, liquid penetrant, magnetic particle, ultrasonic, and tensile tests to detect imperfections and discontinuities in weldments; demonstrate skill in producing quality welds.
*Prerequisites: WLD 5433, WLD 5450, WLD 5241, WLD 5421, WLD 5422, WLD 5431; Corequisite: WLD 5267, WLD 5432. (2-0) 2

***WLD 5355 Commercial and Industrial Practices I:** Upon completion of this course, students should be able to demonstrate skill developed through practice in simulated industrial processes and techniques; sketch, lay out, list procedures, and construct a project following these procedures; repair worn or broken parts by special welding application; perform non-destructive tests and inspection; identify and practice safety precautions involved in the welding industry.
*Prerequisites: WLD 5433, WLD 5241, WLD 5450, WLD 5421, WLD 5431, WLD 5450. (1-6) 3

***WLD 5356 Commercial and Industrial Practices II:** Upon completion of this course, students should be able to prepare a bill of materials necessary to fabricate projects; fabricate projects from sketch or blueprint; demonstrate additional skill in those areas outlined in WLD 5355.
*Prerequisite: WLD 5355. (1-6) 3

WLD 5401 Basic Calculations for Welders: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the welding field; apply the functions of ratio and proportion to length and height of dimensions; read a scale satisfactorily; calculate the percentage of error involved in a given measurement; find weights and capacities of stock using area and volume formulas; understand angular measurement. (4-0) 4

***WLD 5404 Pipe Welding:** Upon completion of this course, students should be able to discuss proper procedures for fitting, positioning, determining gap clearance, tacking, and surface preparation of pipe; demonstrate proficiency in oxyacetylene flame cutting of pipe and test specimens to be used; weld pipe using the shielded metal arc welding process with E-6010 and E-7018 electrodes in the horizontal and vertical fixed positions; demonstrate and practice safety precautions pertaining to shielded metal arc welding equipment.
*Prerequisites: WLD 5240, WLD 5421, WLD 5422, WLD 5433, WLD 5431. (2-6) 4

WLD 5421 Shielded Metal Arc Welding I: Upon completion of this course, students should be able to identify the

proper set-up and operation of an AC transformer, rectifier, and DC motor generator arc welding machine; identify and select welding electrodes, polarities, and heats used in joining various metal alloys; prepare and demonstrate welding proficiency on different types of joints in the flat and horizontal position; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to shielded metal arc welding. (2-6) 4

***WLD 5422 Shielded Metal Arc Welding II:** This course is a continuation of WLD 5421. Upon completion, students should be able to demonstrate welding proficiency on different types of joints in all positions; make intermittent welds and multiple passes; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to shielded metal arc welding.
*Prerequisite: WLD 5421. (2-6) 4

WLD 5431 Gas Tungsten Arc Welding I: Upon completion of this course, students should be able to define operations and uses of gas tungsten arc welding equipment; identify and select welding electrodes, shielding gases, filler rods, and heat ranges; demonstrate welding proficiency on different types of joints and various metal alloys, including aluminum and stainless steel in the flat position; test welds to detect weaknesses and imperfections; demonstrate and practice safety precautions pertaining to gas tungsten arc welding. (2-6) 4

***WLD 5432 Gas Tungsten Arc Welding II:** This course is a continuation of WLD 5431. Upon completion, students should be able to describe and demonstrate the proper set-up and operational procedures of gas tungsten arc welding equipment; demonstrate welding proficiency on different types of joints and various metal alloys, including aluminum and stainless steel in all positions; identify and select electrodes, gases, cutting heat ranges and operation of the plasma arc cutting system on non-ferrous metals; demonstrate and practice safety precautions pertaining to gas tungsten arc welding and plasma cutting.
*Prerequisite: WLD 5431. (2-6) 4

***WLD 5433 Oxyacetylene Welding and Cutting:** Upon completion of this course, students should be able to describe the principles of oxyacetylene welding and cutting; describe the operation of the equipment; assemble all components properly; form a puddle and carry the puddle forming weld beads in the flat position on different types of joints; identify and demonstrate all safety precautions involved in oxyacetylene welding.
*Corequisites: WLD 5241, WLD 5433 (2-6) 4

***WLD 5450 Gas Metal Arc Welding:** Upon completion of this course, students should be able to describe the essentials of gas metal arc welding; set up according to procedure and operate the gas metal arc welding equipment; weld different types of joints in the flat, vertical, and horizontal positions on steel sheet metal plate and aluminum plate; select welding current, shielding gases, and filler wires; identify and practice safety precautions pertaining to gas metal arc welding.
*Corequisites: WLD 5241, WLD 5433. (2-6) 4

Corporate and Continuing Education

Corporate and Continuing Education

Activities within Corporate and Continuing Education fall into two major categories: **Community Service** and **Occupational Extension.**

For general information, call 704/342-6600.

Community Service

Community Service programs contribute to the civic, cultural, intellectual, personal, and social enrichment of the Charlotte-Mecklenburg area. They assist adults in developing new skills and in upgrading existing skills. By using the intellectual and cultural resources of the College and the community, these programs improve the quality of life in this region and enrich the lives of countless individuals.

To maximize outcomes and avoid duplication of services, Community Service programs are coordinated with local schools, churches, agencies, and associations.

Community Service program offerings and services are available on CPCC's Central Campus and at numerous other locations. They include:

- avocational courses which focus on an individual's personal and/or leisure interests
- cultural enrichment and civic activities, such as concerts, art shows, exhibitions, lecture series, seminars and conferences
- non-credit academic courses, such as mathematics, science, social science, and the humanities

Community Service course descriptions begin on page 247.

For more information, call 704/342-5489.

Occupational Extension

The primary purpose of Occupational Extension programs is to contribute to the economic development of the Charlotte-Mecklenburg area. This is accomplished by providing quality, cost-effective workforce training and retraining appropriate to the learning styles of adults. This training may be customized on a contract basis to meet the specific requirements of business, industry, and public sector organizations at a variety of times and locations.

The building of dynamic partnerships with community organizations, business, and industry is a critical component in meeting the workplace training needs of this area.

Occupational Extention programs include:

· Contract Training

Custom-designed contract training programs are available to meet the training and retraining needs of business, industry, and organizations in CPCC's service area. Training can be provided at times and locations convenient to the firm and the trainees. These high-quality, low-cost programs are taught by professional faculty selected on the basis of educational preparation and practical experience needed for a specific training program. Topics range from managerial and technical skills to personal development and health care.

For more information, call 704/342-6213 or 6698.

· Focused International Training Program (FIT)

This program provides a broad range of training for skilled and semi-skilled workers in manufacturing industries. Directed toward workers in critical occupations who need to upgrade their skills and technical knowledge, FIT classes can be offered at College facilities or delivered to employees at the job site. Needs assessment and customized course development insure that instruction is focused on the current needs of industry.

For more information, call 704/342-6471.

· In-Plant Training

Corporate and Continuing Education offers organizations an opportunity to receive, at minimal cost, long-term, intensive training at the job site. Course topics include both management and technical skills training.

For more information, call 704/342-6575.

· Export Outreach Program

This program introduces students to the fundamentals of international trade, including qualifying the company, locating international markets, understanding the role of freight forwarders, bankers, and attorneys. Marketing techniques, pricing and quotations, and trade shows are among numerous topics covered. This program is offered in partnership with the North Carolina Department of Community and Economic Development.

For more information, call 704/342-6900 or 6543.

· International Business Services

The International Business Services Section of the Small Business Center provides assistance to individuals and firms engaged in or considering entering the international business arena.

Services include:

- educational programs, seminars, non-credit short courses, and conferences on selected international business topics
- custom-designed training programs tailored to the needs and interests of business. Training is provided at times and locations convenient to the firm and trainees, and includes topics such as international finance and banking, transportation, marketing, language, and culture.
- introductions to students from over 100 countries who are enrolled at CPCC
- counseling and networking to assist individuals and firms as they consider the possibility of entering international markets.

For more information, call 704/342-6900.

· New and Expanding Industry Program

The State of North Carolina established the New and Expanding Industry Program which is administered through the North Carolina Department of Community Colleges. The program provides training resources to companies new to North Carolina and to existing companies that are involved in major expansion.

The training involves joint planning by company personnel and industrial training specialists from CPCC. College personnel are available to visit the existing operations of a company in order to study the job skills, work schedules, production processes, and other variables pertinent to preparing a training proposal suited specifically to a company's particular needs.

For more information, call 704/3342-6471.

• *Small Business Center*

The Small Business Center offers support to individuals who want to start a small business and to those who need assistance with an existing business.

The Center monitors the needs of area small businesses, offering classes and seminars to meet those needs. It also works with other community agencies serving small business. These agencies include, the U.S. Small Business Administration, the Charlotte Chamber of Commerce, and the Minority and Women Business Owners Association. The Center also acts as a clearinghouse to refer small business owners and managers to other agencies that can provide specific assistance to meet their special needs.

For information, call 704/342-6900.

Following is a directory of Occupational Extension program offerings and services.

Business and Office Technology – 704/342-6213
Construction Trades – 704/342-6575
Focused Industrial Training – 704/342-6471
Health, Human Services – 704/342-6508
International Business Development and Management 704/342-6543
Microcomputer Classes – 704/342-6210
New and Expanding Industry Training – 704/342-6471
Productivity and Quality Control – 704/342-6698
Public Safety – 704/342-6575
Technical and Industrial Training – 704/342-6698
Workforce Preparedness – 704/342-6946

Course Descriptions

The following course descriptions include, in parenthesis, the telephone number for more information.

AVN 8950 Aircraft Instrument Ground School: Provides instruction needed to obtain a private instrument rating. Student should have private pilot certification or instructor approval. (704/342-5068 or 6508)

AVN 8951 Ground School for Pilots: Offers instruction in aeronautical subjects required in preparation for the private pilot's written examination. (704/342-5068 6508)

AVO 8315 Cake Decorating: Provides instruction in decorating cakes for weddings, anniversaries, birthdays, and other special events. Students also learn the art of writing on decorated cakes. (704/342-5489)

AVO 8320, HMK 8797, HMK 8802 Cooking Classes: A variety of non-credit cooking classes is offered each quarter. Some popular titles are: Basic Cooking I, Party Food Preparation, International Cooking, and Cooking: Quick and Easy. (704/342-5489)

AVO 8548, AVO 8549 Ceramics I and II: Incorporates the use of basic techniques for preparing painting and decorating greenware with emphasis on the use of glazes and stains. Students are also introduced to the skills of loading, firing, and unloading the kiln. (704/342-5479)

AVO 8558 Drawing: Provides instruction in techniques of drawing. Emphasis is placed on finding solutions to a variety of visual problems. Participants experiment with various drawing tools and materials to discover and develop a personal style. (704/342-5489)

AVO 8573 Flower Arranging: Provides instruction in selection of materials and designing arrangements suitable for almost any occasion. Fresh-cut flowers and dried or silk materials will be used in designing arrangements. (704/342-5489)

AVO 8575 Calligraphy: Provides instruction in the art of decorative writing. Students study the history of the italic style and techniques needed to execute it. Using historic and modern letters, students learn the intricate use of the broad edge pen while building proper writing skills. (704/342-5489)

AVO 8581 Landscape Your Home: Provides the basic elements of landscape design. Instruction includes proper selection of plants and other materials which are most appropriate for the particular conditions present in the area being landscaped — type of soil and amount of sunlight or shade. (704/342-5489)

AVO 8586, AVO 8588 Interior Decorating for Your Home I and II: Provides instruction in evaluating a floor plan in terms of practicality and aesthetics. Students plan layouts of furniture, as well as learn to coordinate materials in terms of finishes, color, design, and lighting for interior use. (704/342-5489)

AVO 8600, AVO 8601 Stained Glass I and II: Provides instruction in stained glass construction. Pattern and glass selection, soldering, lead caming and copper foiling techniques are taught. As students become proficient, more detailed projects are introduced. (704/342-5489)

AVO 8700 Tole and Decorative Painting: Provides instruction in Tole, a decorative form of painting, and its many practical applications. Topics include techniques for proper brush strokes, shading, color blending, and pattern transfer. (704/342-5489)

AVO 8730, AVO 8731 Watercolor: Introduces special effects in watercolor through the use of various tools and types of paper. Specific subjects, color schemes, and compositions are explored, as well as varied approaches to the techniques of combining watercolor with other media. (704/342-5489)

AVO 8750 Oil Painting: Provides fundamental principles of the medium and demonstrates how to use the basic concepts of space, composition, and color to interpret still life, landscape, and the human form. (704/342-5489)

BPR 7007 Blueprint Reading I— Construction: Covers working drawings and blueprints, elevation drawings, floor plans, floor plan symbols and notations, scaling and dimensions practice, structural design and blueprints, reading detailed drawings, plot plans, trade information, quantity takeoffs and estimating. (704/342-6299 or 6275)

BUS 7115 Notary Public: Meets the educational requirements established by the Secretary of State in order to become a Notary Public. The required textbook covers statutes and rules which apply to those who wish to hold a Notary commission. (704/342-6464)

CAR 7101 Home Construction Methods and Detail: Assists the inexperienced builder to identify and evaluate information and procedures pertaining to home construction, such as lot survey, drainage, excavation and foundation construction, foundation walls, floors, wall and roof framing; to appraise prefabricated walls and roof trusses, various types of duct work, heating and plumbing rough-in work, and electrical wiring; to compare and select exterior wall coverings, plumbing-lighting-electrical fixtures and devices, and hardware; to evaluate the actual application of the construction materials and techniques through site visitation. (704/342-6299 or 6275)

CAR 7130 General Contractor's License Examination Preparation: Provides a review of the laws, building codes, and procedures covered by the North Carolina General Contractor's Examination for residential construction contracting. (704/342-6299 or 6275)

DPX 7000 Introduction to Microcomputers and PC DOS: Introduces students to the operation of microcomputers in a PC DOS environment. (704/342-6210 or 6464)

DPX 7010 DOS (Beginning Level): Prepares students to operate microcomputers in a PC DOS environment. Students should already have a basic understanding of computer terms and concepts. (704/342-6210 or 6464)

DPX 7020 DOS Level II: Designed for second-level DOS students to learn DOS microcomputer programming and/or microcomputer maintenance activities. (704/342-6210 or 6464)

DPX 7104 Introduction to WordPerfect: Trains students to create, edit, spell check, and print single- and multi-page documents using WordPerfect. Formatting text, typing in columns, and list/merge procedures are included. (704/342-6210 or 5069)

DPX 7105 Intermediate WordPerfect Helps students expand the applications learned in the introductory course. This course focuses on advanced merge techniques, outlines, math, windows, macros, and graphics. (704/342-6210 or 6464)

DPX 7106 Advanced WordPerfect: Prepares students to change default setting in WordPerfect and customize the software to specific needs. Macros are expanded to include chaining and prompts. Graphics are integrated with columns, text boxes, and vertical lines. Manuscript features, such as master documents, footnotes, index and table of contents are included, along with fonts and converting files. (704/342-6210 or 6464)

DPX 7115 Introduction to LOTUS 1-2-3: Presents the concepts and operation procedures to use LOTUS 1-2-3 for the development of electronic spreadsheets illustrating the basic capabilities of this software package. (704/342-6210 or 5069)

DPX 7117 Introduction to dBase IV (Level I): Provides hands-on experience in operating the dBase III software package creating files, reorganizing, and rearranging files within files, and generating reports. (704/342-6210 or 6464)

DPX 7215 Intermediate LOTUS 1-2-3 (Level II): Surveys Intermediate LOTUS 1-2-3 applications using databases, data tables, lookup tables, screen controls, macro introduction, and file management. (704/342-6210 or 6464)

DPX 7216 Advanced LOTUS 1-2-3 (Level III): Provides instruction in all the LOTUS features in business applications, emphasizing database features and applications. (704/342-6210 or 6464)

DPX 7400 Microsoft Word with Windows: Designed to train students to create, edit, spell check, and print single- and multi-page documents using Microsoft Word with Windows. (704/342-6210 or 6464)

DPX 7405 Excel With Windows: Provides instruction in the concepts and operating procedures of Excel as an electronic spreadsheet within the Windows environment. (704/342-6210 or 6464)

DPX 7500 Desktop Publishing — WordPerfect: Prepares students to produce newsletters, church bulletins, real estate newsletters and mailings using the desktop publishing capabilities of WordPerfect. (704/342-6210 or 6464)

DPX 7600 Introduction to the MacIntosh Computer: Introduces students to the capabilities of the MacIntosh computer using the software package MacPaint, MacWrite, and MacDraw. (704/342-6210 or 6464)

DPX 7610 Desktop Publishing — PageMaker: Trains students to use Aldus Pagemaker software for the Apple MacIntosh. Students create business communications (memos, reports, etc.) in the computer lab as they advance through the publishing capabilities of the software. (704/342-6210 or 6464)

ECO 8386 Income Tax Preparation: Prepares students to complete the basic forms and schedules needed to file a basic federal and North Carolina individual income tax return. Some of the forms included are Forms 1040, 2119, 3903, 2441, 4684, 8283, 8598, and Schedules A and B, C, D, and SE. (704/342-5489)

ECO 8951 Investments and Financial Planning Strategies: Presents a broad overview of the five basic financial planning areas that are the foundation of any effective individual financial plan. Various investment categories are explored and their relationship to each of these five areas is reviewed. (704/342-5489)

ECO 8952 Your Money: Investing It Wisely: Designed to help interested investors improve their knowledge and understanding of stocks. Topics covered include advantages and disadvantages of stocks, market, theory, statement analysis, cash flow, and sources of investment information. (704/342-5489)

ELX 7050, 7051, 7052 National Electric Code I, II, and III: Covers the entire National Electric Code, and prepares aspiring electricians for the North Carolina journeyman's electrical examination. (704/342-6299 or 6575)

EMT 7028 Emergency Medical Technician: Prepares students to take the State examination for Certified Emergency Medical Technicians. EMT's are employed by ambulance services, fire departments, industries, and other public service providers. Includes a minimum of ten hours in-hospital training and observation to aid students in developing expertise in the emergency medical care field. (704 /342-6507)

HEA 8954 Infant and Child CPR (Course B): Teaches how to perform cardiopulmonary resuscitation and the Heimlich Maneuver on adults, infants and children. This course is certified by the American Heart Association. (704/342-5068 or 6508)

HEA 8956 Basic Life Support (Course C): Teaches both one- and two-person CPR on adults, infants and children. This course is certified by the American Heart Association. (704/342-5068 or 6508)

HEA 8957 CPR Recertification: This course is certified by the American Heart Association. (704/342-5068 or 6508)

HEA 8958 Adult CPR (Course A): Teaches how to perform cardiopulmonary resuscitation and the Heimlich maneuver on an adult. This course is certified by the American Heart Association. (704/342-5068 or 6508)

HEA 8960 First Aid, Infant and Child CPR: Provides instruction and practice in basic first aid techniques for common injuries and illnesses of children, as well as CPR for infants and children. Designed to meet the needs of child care providers. (704/342-5068 or 6508)

HEA 8963 First Aid and Adult CPR: Provides instruction and practice in basic first aid techniques, as well as adult CPR. (704/342-5068 or 6508)

HEA 8966 First Aid, Adult, Infant and Child CPR: Provides basic first aid techniques for common injuries and illnesses of children, as well as CPR for adults, infants and children. Designed to meet the needs of child care providers who have after-school programs. (704/342-5068 or 6508)

HEA 8969 First Aid: Provides instruction and practice in basic first aid techniques for common injuries and illnesses. (704/342-5068 or 6508)

HIS 8005 Reminiscence of Historical Charlotte: Involves a study of Charlotte-Mecklenburg's history, growth, and contributions made regionally and nationally. (704/342-5489)

HIS 8009, HIS 8010 Genealogy I and II: Instructs students in how to conduct beginning genealogical research, including research methods, documenting techniques, organizing information, genealogical correspondence, oral history techniques, and the use of local, county, state, and federal records. American research sources are emphasized. (704/342-5489)

HMK 8751 Beginning Sewing: Offers step-by-step instruction for using the sewing machine. Reading and fitting a pattern, fabric selection and construction of basic garments are emphasized. Basic sewing techniques, such as straight and zig-zag stitching, gathering, and zipper installation are taught. Intermediate (HMK 8752) and Advanced Sewing (HMK 8753) are also offered. (704/342-5489)

HMK 8757 Women's Tailoring: Offers instruction about equipment, supplies, personal measurements, pattern adjustments, fabric preparation, and the application of techniques, such as interfacing, underlining, padded stitches, fitting, and finishing to produce professional-looking tailored garments. This course is designed for students with advanced sewing skills. (704/342-5489)

HMK 8772 Lingerie Construction: Applies basic sewing techniques when using nylon tricot, woven satin, elastics, laces and other notions to create professional-looking lingerie garments. This course is designed for students with beginning sewing skills. Lingerie Construction II (HMK 8773) is also offered. (704/342-5489)

HMK 8795, HMK 8796 Chinese Cooking I and II: Emphasizes the special techniques used in cutting meats and preparing vegetables. Several popular dishes, such as sweet and sour pork, beef and broccoli, egg rolls, and fried rice are prepared by the students. (704/342-5489)

HMK 8797-HMB 8802, AVO 8320 Cooking Classes: A variety of non-credit cooking classes is offered each quarter. Some popular titles are Basic Cooking I, Party Food Preparation, International Cooking, and Cooking: Quick and Easy. (704-342-5489)

HPX 7000 Emergency First Aid Training: Designed to meet the needs of first aid emergencies in the workplace. Includes first aid for stoppage of breathing, control of bleeding, airway obstruction, shock, and other first aid needed due to accidents and medical emergencies. Can be designed to meet specific organization needs. (704/342-5068 or 6508)

IBX 7440 Letters of Credit — Principles and Documentation: Introduces concepts, benefits, and legal aspects of this internationally-accepted means of payment for international transactions, including a basic understanding of the Uniform Customs and Practices for Documentary Credit. (704/342-6543)

IBX 7445 Export Transportation Management: Provides instruction in choosing the best method of transportation, documentation requirements (e.g., bills of lading), consular documents, certificates of origin, invoices, letters of credit, etc., and finalizing an export shipment. (704/342-6543)

IBX 7447 Fundamentals of Importing: This course introduces students to the process for importing goods into the United States. Emphasis is placed on the entry process, an understanding of customs, duty, classifications and documentation. (704/342-6543)

IBX 7461 Advanced Letters of Credit: This course provides students with the opportunity to evaluate actual case studies of different letters of credit. Special emphasis is placed on understanding and usage of the UCP 400. (704/342-6543)

JOU 8114 Creative Writing: Provides vigorous writing experience and intensive critiquing sessions for the serious student. Emphasis is placed on revising and polishing student writing and the mechanics of preparing a manuscript for publication. (704/343-5489)

LAN 8001-8040 Conversational Foreign Languages: A variety of non-credit conversational foreign languages is offered which enables students to engage in more effective verbal communication in a foreign country. Instructors are usually native speakers. Typical languages are French, Italian, German, Spanish, Russian, and Japanese. (704/342-5489)

MEM 8769 Woodworking: Introduces students to the proper use, safety, and care of hand and power tools. Basic methods of construction, design, finishing, and fastening of wood are covered. (704/342-5479)

MIC 8770 Furniture Upholstering for the Home: Provides step-by-step directions in how to upholster furniture. Instruc-

tion includes selection of fabric, removal of old fabric, cutting fabric, and upholstering techniques using a variety of tools and methods. Students provide the furniture to be upholstered. (703/342-5489)

MIC 8771 Furniture Restoration: Covers the analysis and evaluation of a piece of furniture in terms of craftsmanship, wood type, stain, and finish. Emphasis is placed on learning restoration techniques and the use of restoration materials. (704/342-5489)

NUX 7010 Refresher for Inactive Registered Nurses: Provides refresher instruction to allow R.N.'s who have been inactive for five of more years to re-enter the workforce. Includes both classroom and clinical components. (704/342-5068 or 6508)

NUX 7109 Nurse Aide I: Offered periodically throughout the year to prepare students to function as Nurse Aides. The class meets on a daytime schedule or an evening schedule. Nurse Aides provide basic patient care, working under the guidance of a licensed nurse. Upon satisfactory completion, students will receive a certificate and be eligible for listing on the State Nurse Aide Registry. (704/342-6507)

REC 8955, REC 8956 Beginning and Intermediate Shag: Incorporates basic Shag steps, counting, leading and following. These classes are especially popular with Carolinians who want to either learn this dance or polish their skills. (704/342-5489)

SBX 7200 Financial Management and Record Keeping for Small Business: Introduces basic financial records management procedures to the small business owner or potential owner, as well as the preparation of financial statements required for accounting, borrowing money, filing tax returns, and managing a business. (704/342-6900)

SBX 7300 Developing Marketing and Selling Techniques: Offers techniques for presenting a business owner, product, or service in a positive and persuasive manner to potential buyers and customers. Also covers major areas of marketing, image building, and public relations in small businesses. (704/342-6900)

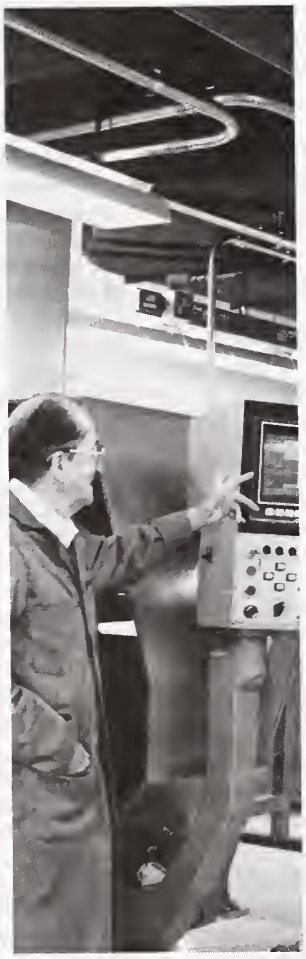
SBX 7301 Business Basics of Starting and Operating a Small Business: Surveys critical issues and questions for those considering going into business or for those who are new business owners. Topics include components of a successful business plan, ways to raise capital, market research, entering the market, planning dollar requirements and cash flow, record and bookkeeping requirements, tax policies and how to comply, insurance and benefits planning unique to a specific business, legal structures, and basic management techniques. (704/342-6900)

SBX 7412 Fundamentals of Starting a Home Business: This course is designed for individuals who work from their home and sell their goods or services – whether it is craft sales, flea markets, through shops or individuals, or on a consignment basis or consulting services operating from home. This class will provide valuable information from many sources that will help the home-business person conduct business from a home office. (704/342-6900)

SBX 7452 Fundamentals of Small Business Tax Preparation: Introduces preparation of federal, state, and local tax forms to small business owners or potential owners, and their relationship to filing an owner's personal tax return. Other topics include a review of records needed to prepare federal, state, and local tax forms for sole proprietorships, partnerships, and corporations. (704/342-6900)

SBX 7453 Fundamentals of Starting a Family-Owned Small Business: Reviews issues unique to family business operations. Topics include succession planning, estate planning, estate tax planning, training and development of family members, consideration of compensation of family members, retaining non-family management, financial family business company growth, restructuring or selling the company, non-active family shareholders and others. (704/342-6900)

Faculty and Professional Staff



Faculty and Professional Staff Full Time

ADAMS, FREDERICK P., Director, Auxiliary Services
B.B.A., 1971 (Campbell College).

ADKINS, CARRIETTA H., Director, Staff Development
B.A., 1968 (East Carolina University); M.Ed., 1973 (University of North Carolina at Charlotte).

AKBAY, MERIAM HANEY, Advancement Studies
A.A., 1966 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte); Educational Specialist Degree, 1991 (Appalachian State University). Additional study at Western Carolina Univerity.

ALBANESE, J. MICHAEL, Mathematics
B.S., 1975 (West Virginia Institute of Technology); M.M., 1977 (University of Tennessee). Additional graduate study at West Virginia University and West Virginia College of Graduate Studies.

ALBRIGHT, JUDY, Accounting
B.S., 1971; M.A., 1972 (Appalachian State University).

ALEXANDER, LANDON, Director, Auto Body Program
Diploma in Auto Body Repair, 1975 (Central Piedmont Community College). Additional studies at Central Piedmont Community College.

ALLRED, CAROLYN M., Department Head, Health, Physical Education and Recreation
A.B., 1962 (Mercer University); M.S.P.H., 1963 (University of North Carolina at Chapel Hill).

ALVAREZ, JOSEPH ANTHONY, English and Foreign Languages
B.A., 1968; M.A., 1971 (University of Florida); B.S. 1981 (University of North Carolina at Charlotte).

AMBROSE, DONALD, Director, Instructional Resources and Development
A.B., 1964 (University of North Carolina at Chapel Hill); M.A., 1985 (Appalachian State University).

ANDERSON, BOB, Supervisor, Bookstore Operations
B.A., 1951 (Valdosta State College). Additional study at Central Piedmont Community College.

ANDREWS, BARBARA C., Chemistry
A.B., 1968 (University of North Carolina at Greensboro); M.S., 1972 (North Carolina State University).

AREY, NORMA-JEAN, Learning Disabilities Counselor, Special Services
A.B., 1973 (University of North Carolina at Chapel Hill); M.H.D.L., 1985 (University of North Carolina at Charlotte). Nationally Certified Counselor. North Carolina Registered Practicing Counselor.

ANZALONE, ANN LAWSON, Practical Nursing
A.A.S., 1970 (Nassau Community College); B.S.N., 1972 (SUNY at Stonybrook); M.A., 1976 (New York University). Registered Nurse.

ARCHER, ROBERT R., Automotive Technology
1967-1979 Dealer Technician/Service Manager; 1979-1987 Fleet Administrator. Study at University of Akron. ASE Certified Master Technician. ASE Master Automotive Technician.

ARMENTROUT, BRENDA BORROR, Speech
B.S., 1978 (Davis and Elkins College); M.S., 1980; M.A., 1982 (West Virginia University).

ARTIS, WILLIE MILTON, Advancement Studies
B.S., 1965 (Fayetteville State University); M.Ed., 1977 (University of North Carolina at Charlotte).

ATKINSON, RUBY L., Computer and Office Information Systems Technology
B.A., 1977 (Fayetteville State University).

ATTREY, JASPAL S., Computer/Electrical/Electronics Technology
B.S., 1971 (Kurukshetra University); M.S., 1973 (Delhi University); M.S., 1975 (Drexel University); B.S.E.E., 1985 (University of Tennessee).

AYDELETTE, REBECCA A., Nursing
B.S.N., 1972 (Mars Hill College); RN, 1962 (North Carolina Baptist Hospital School of Nursing). Graduate study at North Carolina Agricultural and Technical State University.

BAILEY, JAMES H., Senior Production Specialist, Educational Networks
B.A., 1974 (University of North Carolina at Chapel Hill). Additional study at the University of North Carolina at Charlotte.

BAKER, DOROTHY H., Director, 3-D Art Program, Art, Visual and Performing Arts
B.F.A., 1976 (Eastern Michigan University); M.F.A., 1981 (Ohio State University). Additional study at State University of New York at New Paltz and S.U.N.Y. at Brockport.

BAKITA, JOHN, Behavioral and Social Science
A.A., 1957 (St. Lawrence Junior College); A.B., 1959 (St. Bernard College); M.A., 1965 (Eastern Michigan University); Ph.D., 1978 (Michigan State University). Additional graduate study at St. Louis University and University of Michigan.

BALLARD, CARL N., Accounting
B.S., 1969; M.A., 1970 (Appalachian State University).

BALLARD, SARA WARREN, Computer and Office Information Systems
B.S., 1966; M.A., 1967 (Appalachian State University).

BALLINTINE, CARL D., Senior Lab Facilitator, Technology
A.A.S., 1988 (Central Piedmont Community College).

BARBER, PHYLLIS ALLRAN, Assistant to the President
B.A., 1968 (Lenoir Rhyne College); M.A., 1970 (The University of Tennessee at Knoxville); Ph.D., 1990 (The University of Texas at Austin). Additional graduate study at The University of North Carolina at Chapel Hill and Salisbury State College.

BARWICK, JOSEPH T., Department Head, English and Foreign Languages
A.B., 1967; M.A.T., 1968 (University of North Carolina at Chapel Hill); Ph.D., 1991 (University of Texas at Austin).

BATTS, SARA ANNE KING, Director, Insurance Program
B.A., 1968 (Pfeiffer College); J.D., 1972 (Stetson University). Additional graduate study at University of North Carolina at Greensboro.

BAVIS, MARY CATHERINE TIMMINS, Business Administration
B.S., 1963; M.S., 1966 (The Ohio State University); J.D., 1971 (Indiana University). Licensed to practice law in Ohio (inactive), Indiana (inactive), North Carolina, and certain federal courts including the Supreme Court of the United States.

BEAM, LAURA ABE
B.C.A., 1973 (University of North Carolina at Charlotte); M.A., (Western Carolina University).

BEGLEY, CAROL D., Physical Therapist Assistant Program
A.A., 1970 (Albany Junior College, GA) A.A.S., 1984 (Central Piedmont Community College). Licensed Physical Therapist Assistant.

BELL, AUGUSTA, Coordinator, Writing Center, English and Foreign Languages
B.J., 1946 (University of Texas); M.A., 1957 (Northwestern University).

BENJAMIN, BRENDA L., Computer Center
Study at State University of New York and New York Community City College. Additional study at Central Piedmont Communtity College.

BENTLEY, WENDY, English
B.S., 1973 (Appalachian State University); M..A., 1990 (University of North Carolina).

BILAL, BRENDA, Advancement Studies
B.S., 1972 (Fayetteville State University); M.A., 1984 (University of North Carolina at Charlotte).

BLACKWELDER, BRENDA CAROLE, Biology
B.A., 1963 (Queens College); M.A., 1965 (Wake Forest University); Ph.D., 1974 (University of South Carolina). Additional graduate study at Duke University and University of South Florida. Certificate, Secondary Education - Biology and Art.

BLALOCK, HOYLE LEE, JR., Department Head, Computer Science and Office Information Systems Technology
B.S., 1961; M.Ed., 1966 (North Carolina State University at Raleigh). Professional Certificate in Data Processing.

BOST, TED ROBY, JR., Director, Automotive Technology Program
Study at University of North Carolina at Charlotte and Western Carolina University. Shop Owner, 1973-85. ASE Master Automotive Technician.

BOSTIC, ALICE E., Coordinator, Compensatory Education
B.S., 1960 (Baldwin-Wallace College); M.Ed., 1964 (Kent State University). Additional study at University of Missouri.

BOUKOUVALAS, COSTAS S., Director, Special Services
A.A., 1960 (Warren Wilson College); B.S., 1963; M.A., 1970 (North Carolina State University). Additional graduate study at North Carolina State University.

BOUTON, DEBORAH THIGPEN, Counselor
B.A., M.Ed., (University of North Carolina at Chapel Hill).

BOZARTH, GLEN, Program Director for Criminal Justice Education Center, Law Enforcement Technology, Correctional and Juvenile Services. A.A.S., 1975; B.A.S., 1977 (Guilford College). Certified Criminal Justice Instructor and School Director by the N.C. Criminal Justice Education and Training Standards Commission.

BRANCH, ARLIAH VANN, Multi-Skills Center
B.S., 1966 (South Carolina State College); M.Ed., 1985 (Winthrop College). Additional graduate study at University of North Carolina at Charlotte and City College of New York.

BRASWELL, MARTHA S., Architectural Technology
Bachelor of Architecture, 1961 (North Carolina State University).

BROCKMAN, H. L., Economics
B.B.A., 1947 (Southern Methodist University); M.B.A., 1948 (Louisana State University).

BROOKS, PEGGY E., Counselor
B.A., 1977 (Gallaudet University); M.A., 1978 (New York University).

BROWN, DAVID A., Health and Physical Education
B.S., 1973 (University of Massachusetts); M.S., 1982 (Mankato State University).

BROWN, EMMA W., Associate Dean for Counseling
B.S., 1968 (Barber-Scotia College); M.Ed., 1975 (University of North Carolina at Charlotte).

BROWN, ROBERT E., Vice President, Business and College Services
B.A., 1980 (North Texas State University); M.B.A., 1988 (University of North Texas). Certified Public Accountant.

BRYAN, NANCY SHEARIN,Technology Learning Center
B.S., 1964; M.A., 1967 (Appalachian State University).

BRYANT, ROLLA GENE, Department Head, Performing Arts
B.M., 1950 (Central Methodist College); M.Ed., 1957 (University of Missouri). Additional graduate study at University of Illinois.

BUCHANAN, CHRISTINE C., Administrative Assistant to the President
A.A., 1949 (Draughan's Business College).

BURLESON, DIANE W., Mathematics
B.A., 1972 (Pfeiffer College); M.A., 1982 (University of North Carolina at Charlotte).

BURNS, HERBERT, Department Head, Accounting and Public Safety
B.S., 1964; M.A., 1967 (Appalachian State University); Ed.D., 1979 (Nova University).

CALDWELL, RAY VON, Biology
A.B., 1953 (Lenoir-Rhyne College); M.Ed., 1959 (University of North Carolina at Chapel Hill). Additional graduate study at Converse College.

CANNON, ALICE F., Supervisor, Registration
Diploma, 1974 (Kings College).

CANNON, JAMES E., Department Head, Hospitality Education
Certificate, 1973 (Ramada Inns International Management Development). Certified Hotel Administrator.

CANNON, VALENE M., Manager, Financial Services
B.S., 1983; M.B.A., 1987 (University of North Carolina at Charlotte).

CARNES, ROSEMARY H., Computer Center
Diploma, 1949 (Indian Land High School).

CATES, DIANNE S., Advancement Studies
A.B., 1964; M. Ed., 1967 (University of Kentucky). Additional study at University of South Florida.

CATHEY, DENISE D., Counseling
B.S., 1975; M.S., 1978 (North Carolina Agricultural and Technical State University).

CHAMBERS, KATHERINE MERRIT, Business Administration
B.A., 1967; M.Ec., 1968 (North Carolina State University). Additional graduate study at Florida State University.

CHEEK, WILLIAM EDWARD, Physical Science
B.A., 1953; M.A., 1957 (Appalachian State University); M.A., 1962 (George Peabody College); Ed.D., 1978 (Nova University). Additional graduate study at University of North Carolina at Chapel Hill, Michigan State University, Duke University, Vanderbilt University, Kansas State University, and University of North Carolina at Charlotte.

CHERNEGA, JANET B., Department Head, Health Technologies
B.S., 1981 (University of North Carolina at Chapel Hill).

CHESHIRE, NANCY, Program Coordinator, Continuing Education
B.S.N., 1959 (Duke University); M.S.N. 1963 (University of North Carolina at Charlotte).

CHESHIRE, THOMAS E., Behavioral and Social Science
B.A., 1967 (North Carolina Wesleyan College); M.A., 1968 (Appalachian State University). Licensed Psychological Associate. Licensed Hypnotherapist.

CHILDRESS, FAYE B., Mathematics
B.S., 1969 (West Virginia Institute of Technology); M.Ed., 1975 (University of North Carolina at Charlotte).

CHRONAKI, BESSIE, English and Foreign Languages
A.B., 1961; M.A., 1966; Ph.D., 1976 (Duke University).

CLONINGER, MICHAEL L., Automotive/Technology
Diploma in Automotive Mechanics, 1974 (Gaston College). ASE Master Automotive Technician.

COGGINS, BOB G., Director, Law Enforcement Program
B.S., 1967 (Pembroke State University); M.Ed., 1968 (West Chester State College); Ph.D., 1970 (University of New Mexico).

COLLINS, MARYBETH MCCLURG, Behavioral and Social Science
B.A., 1969 (Wittenberg University); M.S., 1972 (Purdue University).

COLQUITT, W. ROY, English and Foreign Languages
B.A., 1967 (North Carolina State University); M.A., 1969 (University of North Carolina, at Chapel Hill); M.Ed., 1975; Ph.D., 1979 (Duke University)

CONELLEY, WILLIAM R., Assessment/Retention Specialist, G.E.D.

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A.A., 1977 (Central Piedmont Community College); B.A., 1979; B.A., 1980 (University of North Carolina at Charlotte); M.A., (University of North Carolina at Chapel Hill). Additional graduate study at University of North Carolina at Chapel Hill.

COULTER, J. LEON, Behavioral and Social Science
B.S., 1951; M.A., 1953 (Appalachian State University); Ed.D., 1960 (Florida State University). Additional study at Appalachian State University.

COX, CHARLES A. III, Senior Programmer Analyst
A.A., A.A.S., 1979 (Central Piedmont Community College).

COZEAN, JOHN M., Assistant to Vice President, Education Services
B.A., 1950; M.Ed., 1957; M.Ed., 1963 (University of Missouri). Additional graduate study at University of Missouri and Washington University.

CRADDOCK, PATSY DENNIS, Nursing
Diploma, 1956 (Presbyterian Hospital School of Nursing); B.S., 1958 (Queens College); M.Ed., 1976 (University of North Carolina at Charlotte). Additional graduate study at University of North Carolina at Charlotte.

CRAIG, ROBERT, English and Foreign Languages
B.A., 1986 (University of Science and Arts at Oklahoma); M. Ed., 1991 (University of North Carolina at Greensboro).

CRAWFORD, GAYLE, Library Services
A.B., 1968 (Johnson C. Smith University). Additional study at Appalachian State University.

CRAWFORD, JOYCE D., Computer and Office Information Systems
B.S., 1962 (Barber-Scotia College); M.A.T., 1975 (Winthrop College). Additional study at University of North Carolina at Greensboro.

CREEK, MACY A., English and Foreign Languages
B.A., 1964 (Westminster College); M.A., 1969 (University of Missouri). Additional graduate study at University of Pittsburgh, Oxford University, and University of North Carolina at Greensboro.

CUDD, DENNIS, Director, Educational Networks
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DAVIS, D. GERRY, Director, Computer/Electrical/Electronics Engineering Technology Program
A.A.S., 1967 (Gaston Technical College); B.E.T., 1975 (University of North Carolina at Charlotte); M.Div., 1980 (Southeastern Baptist Theological Seminary). Additional graduate study at Southern Baptist Theological Seminary.

DAVIS, JAMES, Insurance/Benefits Specialist
A.A., 1969 (Southern Business College). Life and Health Insurance Underwriter.

DAWKINS, RITA RORIE, Counselor
B.A., 1981 (University of North Carolina at Chapel Hill); M.Ed., 1982 (University of North Carolina at Greensboro). Additional study at University of North Carolina at Charlotte.

DEADWYLER, MAJORIE H., Dental Hygiene
A.A.S., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte). Additional study at Southern Methodist University. Dental Hygiene License in North Carolina and South Carolina.

DEPAULA, WILLIAM, International Student Advisor
LL.B., 1963 (Candido Mendes Law School of Rio de Janeiro, Brazil); M.A., 1985 (Winthrop College).

DEPAULA, ZILDA SOUZA, English and Foreign Languages
B.A., 1963 (University of Brazil); M.A.T., 1967 (Brazil-U.S. English Language Institute); M.A., 1983 (Winthrop College).

DOMINICK, CLAIRE B., Associate Degree Nursing
Diploma, 1953 (Dickinson Hospital School of Nursing); B.A., 1973 (Sacred Heart College); M.Ed., 1978 (University of North Carolina at Charlotte).

DUNCAN, JOHN M., Corporate and Continuing Education
B.A., 1966 (St. Andrews Presbyterian College); M.Ed., 1974 (University of North Carolina at Greensboro). Additional study at North Carolina State University.

DUNLAP, BRUCE E., Accounting and Public Safety
B.S., 1987 (Winston-Salem State Univerisity). Graduate study at Wake Forest University.

EDMONDS, Sr., WINSTON L., Special Assistant to the President, TRIO Programs
B.A., 1968 (Virginia State College); M.Ed., 1976 (University of Virginia).

EDWARDS, GRACIE L., Biology
A.A., 1969 (Central Piedmont Community College); B.A., 1981 (Thomas Edison College). Graduate study at University of North Carolina at Charlotte.

EFRID, VICTORIA, ABE/ABLE
B.S., 1975 (East Carolina University); M.A., 1991 (Appalachian State University).

ENGLEBERT, PAMELA J., Senior Production Specialist, Media Production
A.S., 1975; A.A., 1978 (Central Piedmont Community College).

ERVIN, JANICE C., Advancement Studies
B.S., 1973 (North Carolina Central University); M.Ed., 1991 (Queens College).

FITZGERALD, DUREE J., Senior Interpreter
A.A.S., 1991 (Central Piedmont Community College). Nationally Certified Interpreter, Comprehensive Skills Certificate.

FLANAGAN, J. DAVID, Behavioral and Social Science
B.A., 1963; M.A., 1969 (University of Florida).

FORRESTER, EILEEN B., Nursing
B.S.N., 1975 (Molloy College); M.A., 1979; Ed.M., 1979 (Columbia University).

FOSTER, T. LINDSAY, Computer and Office Information Systems Technology
B.S., 1970 (Mars Hill College); M.Ed., 1976 (University of North Carolina at Charlotte).

FRENCH, JANIE C., Computer and Office Information Systems Technology
B.S., 1970 (Lesley College); M.A., 1976 (University of Bridgeport).

FUNCHES, TOMMY L., Senior Lab Facilitator, Advancement Studies
A.A., 1982 (Central Piedmont Community College); B.A., 1985 (University of North Carolina at Charlotte).

FUNDERBURKE, BETTY JEAN, Director, Personnel Services
B.A., 1953 (North Carolina Central University). Additional study at University of North Carolina at Chapel Hill, University of Chicago, and University of North Carolina at Charlotte.

GADSDEN, CHRISTINE, Computer and Office Information Systems Technology
A.A., 1959 (Carver College).

GARMON, SANFORD, JR., Director, Diesel Vehicle Maintenance Program
Diploma, 1968; A.G.E., 1972; Associate in Applied Science, 1989 (Central Piedmont Community College); B.S., 1988 (Western Carolina University).

GARRETT, DALLAS, Dean, Business, Health, and Technology Programs
B.S., 1962 (Wayne State University); M.A., 1966 (Eastern Michigan University); Ph. D., 1991 (Eurotechnical Research University). Additional study at Illinois Institute of Technology Research Institute.

GAY, MELVIN L., Dean, Student Development
B.A., 1967 (North Carolina Wesleyan College); M.A., 1969; PhD., 1974 (University of North Carolina at Chapel Hill).

GENNETT, NICHOLAS D., Vice President, Education Services
B.S., 1960 (Ohio University); M.Ed., 1963; Ph.D., 1966 (Kent State University).

GESTWICKI, CAROL, Human Services Associate
B.Sc.N., 1962 (McMaster University, Hamilton, Ontario); M.A., 1970 (Drew University).

GIVENS, LYNN M., Advancement Studies
B.S., 1969 (Hampton Institute); M.A. Ed., 1985 (University of North Carolina at Charlotte). Additional graduate study at Marquette University.

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GRAHAM, H. PAIGE, Advancement Studies
B.A., 1972; M.A., 1974 (University of South Florida).

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A.G.A., 1970 (Chowan College); B.S., 1973 (Arkansas State University); M.A., 1977 (California State University at Los Angeles). Additional graduate study at Central Missouri State University.

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B.A., 1974; M.Ed., 1976 (University of North Carolina at Chapel Hill). Additional sutdy at the University of North Carolina at Charlotte and North Carolina State University.

GREENE, GARY, Mechanical and Manufacturing Engineering Technology
B.S., 1954 (North Carolina State University). Additional study at University of Tennessee. Registered Professional Engineer.

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GREINER, PATRICIA, Reading
B.S., 1952 (Purdue University); M.Ed., 1976 (Clemson University). Additional graduate study at Florida State University.

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B.A., 1962; M.A.T., 1966 (University of Florida). Additional study at Florida State University, University of Pennsylvania, University of Rochester, Punjab University (Lahore, Pakistan), University of North Carolina at Chapel Hill.

GRIFFIN, MARY W., Financial Aid Specialist
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GRIFFIN, THOMAS E., Dean, Educational Resources
B.S., 1952 (Western Carolina University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University). Additional graduate study at University of North Carolina at Chapel Hill and North Carolina State University.

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B.S., 1960 (Appalachian State University); M.A., 1965 (Peabody College); Ed.D., 1973 (Appalachian State University).

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A.S., 1969 (Bernard Baruch School of Business Administration); B.S., 1970; M.A., 1974 (John Jay College of Criminal Justice, New York).

HALL, JAMES E., Department Head, Science
B.S., 1967; M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).

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A.A., 1966 (Central Piedmont Community College); B.A., 1968 (University of Georgia); M.Ed., 1972 (University of North Carolina at Charlotte); Ph.D., (University of North Carolina at Greensboro).

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Study at Gaston College and University of North Carolina at Charlotte.

HARPER, DEBRA, Coordinator, Telecommunications
B.A. 1976 (University of North Carolina at Charlotte); M.A., 1980 (Spalding University); M.B.A., 1990 (Winthrop College). Additional study at University of Dayton Law School and University of Louisville School of Police Administration.

HARRIS, ELIZABETH T., Horticulture Technology
B.S. Humanities, 1967 (Butler University); M.Ed., 1975 (University of North Carolina at Charlotte); A.A.S., 1983 (Central Piedmont Community College). Registered Landscape Contractor. Certified Plantsman. Licensed Pesticide Applicator. Reading Specialist.

HARRISON, PHILLIP S., Assistant Manager, Plant Services
B.S., 1969 (Atlantic Christian College). N.C. Electrical Contractor's License.

HARLTEY, GAYLE MELTON, English and Foreign Languages
A.A., 1958 (Wingate Junior College); A.B., 1960; M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina). Additional study at New York State University.

HELLINGER, SOL, Director, General Services
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HELMS, MARK E., Counselor
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HELMS, SARAH M., Senior Buyer
Study at Winston-Salem Business College.

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A.A., 1984; A.G.E., 1989 (Central Piedmont Community College). Additional study at University of North Carolina at Charlotte and Central Piedmont Community College.

HEPTIG, RICHARD F., Automotive Mechanics
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A.A., 1961 (Centenary College for Women); B.A., 1984 (University of North Carolina at Charlotte).

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B.S., 1985 (Virginia State University).

HILL, LINDA W., Facilitator, Computer Center
A.G.E., 1985 (Central Piedmont Community College). Additional study at Central Piedmont Community College and Queens College.

HINSON, SARA ELIZABETH, Associate Degree Nursing
B.S.N., 1982 (University of North Carolina at Charlotte); M.S.N., F.N.P., 1988 (University of North Carolina at Chapel Hill).

HOBBS, MARGARET WAGONER, Computer and Office Information Systems Technology
B.S., 1961 (Appalachian State University); M.Ed., 1970 (University of North Carolina at Greensboro).

HOLLIS, TOM, Performing Arts, Drama
A.B., 1976 (Pfeiffer College); M.F.A., 1978 (Southern Illinois University at Carbondale).

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HONEYCUTT, IRENE B., English and Foreign Languages
B.A., 1963 (Bob Jones University); M.A., 1969 (East Tennessee State University). Additional graduate study at University of Colorado and Dominican College at San Rafael.

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B.S., 1971 (Davidson College)

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B.S.N., 1970 (North Carolina Agricultural and Technical State University).

HOOKS, CLYDE, JR., Instructor, CNC and Machine Shop
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American Ballet Theatre (Dance TCY, Dancer); Broadway Shows; Metropolitan Opera (Ballet Teacher); Manhattan Festival Ballet (Director); Omaha Ballet; Dance Charlotte (Choreographer), Ballet, Opera, and Musical.

HORSTMANN, BARBARA, Counselor
B.S., 1966; M. Ed., 1988 (Kent State University).

HOWARD, CLAUDE THOMAS, Director, New Industry Training, Corporate & Continuing Education
B.S., 1973; M.Ed., 1974 (North Carolina State University). Additional graduate study at University of North Carolina at Charlotte, Western Carolina University, and Appalachian State University.

HOWARD, CORA C., Mathematics
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HOWELL, EDWARD N., Supervisor, Grounds Maintenance
B.S., 1976 (North Carolina State University). Additional study at Appalachian State University.

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B.S., 1982; M.A., 1985 (Clemson University).

HUDSON, JUDITH THREATTE, Speech
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A.A., 1971 (Mohawk Valley Community College); B.A., 1973 (State University of New York at Buffalo); M.A., 1977 (University of New Mexico).

HUNEYCUTT, JUDY HILL, Interpreter II, Special Services
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B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University); Ed.D., 1979 (Nova University). Additional graduate study at Rutgers University and North Carolina State University.

HUNTER, WRIGHT, JR., English and Foreign Languages
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B.S.S.A., 1967 (University of North Carolina at Greensboro); M.A., 1968 (Appalachian State University); Ed.D., 1984 (North Carolina State University).

IBANEZ, HUGO J., English and Foreign Languages
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1971 (University of North Carolina at Greensboro).

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B.A., 1977 (Howard University); M.P.A., 1981 (University of North Carolina at Greensboro); Certified Criminal Justice Instructor and School Director. North Carolina Criminal Justice Education and Training Standards Commission.

JACKSON, WILLIAM L., Behavorial and Social Science
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JANE, MAGALY, English and Foreign Languages
B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).

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B.S., 1976; M.A., 1980 (University of Cincinnati).

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B.S., 1957 (North Carolina Agricultural and Technical State University); M.A., 1960 (Columbia University, NY). Additional graduate study at University of North Carolina at Greensboro and Nova University.

JOHNSON, WILLIAM M., Air Conditioning, Heating and Refrigeration Technology
A.S., 1959 (Southern Technical Institute). Additional study at University of Georgia, Aubum University, and Sneade Junior College.

JOHNSTON, CYNTHIA W., Department Head, ABE/ABLE/GED
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B.S., 1977 (North Carolina Central University).

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B.A., 1963 (Lenoir-Rhyne College); M.A., 1965 (University of South Carolina). Additional graduate study at Florida State University.

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Study at Morgan State College and Central Piedmont Community College. Registered Building Service Manager. Basic Law Enforcement Training. Sworn police officer, Charlotte Police Department Reserve.

JOYNER NORMAN, Electrical and Electronics Engineering Technology
Specialty Schools, U.S. Army Electronics School, RCA and Westinghouse.

KASLER, BARBARA JOHNSON, Art, Fine Arts
B.A., 1958 (Queens College); M.Ed., 1968 (Wayne State University).

KENNEDY, GEORGE MANUEL, Art, Commercial Art
B.A., 1967 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte.

KIBLER, WILLIAM ARTHUR, JR., Adult Education
B.S., 1960 (North Carolina Agricultural and Technical State University). Additional study at Appalachian State University.

KIRKMAN, A. VICTOR, JR., Counselor
B.A., 1955 (Wake Forest University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University).

KISER, HELEN T., Practical Nursing
Diploma, 1953 (Mercy School of Nursing); B.A., 1973 (Limestone College); M.Ed., 1982 (University of North Carolina at Charlotte). Registered Nurse.

KOONS, GEORGE C., Law Enforcement Program
B.C.S., LLD., and Juris Doctor, 1951 (Ohio State University). Certified Criminal Justice Instructor. Licensed Private Investigator.

KOONTS, G. DAN, Mechanical/Manufacturing Technology
A.A.S., 1971 (Davidson County Community College); B.E.T., 1976 (University of North Carolina at Charlotte); A.A.S., 1986 (Central Piedmont Community College).

KORTHEUER, STEPHEN D., Mechanical/Manufacturing Engineering Technology
A.A.S., 1985 (Central Piedmont Community College); B.S.E.T., 1988 (Western Carolina University). Certified Manufacturing Technologist (CMFgt-SME).

KUYATH, STEPHEN J., Electronics Engineering Technology
A.A.S., 1983 (Central Piedmont Community College); B.E.T., 1987 (University of North Carolina at Charlotte).

LAKE, BARBARA SUE, Advancement Studies
A.A., 1968 (Central Piedmont Community College); B.A., 1971; M.H.D.L., 1981 (University of North Carolina at Charlotte); A.G.E., 1982 (Central Piedmont Community College). Additional graduate study at North Texas State University and North Carolina State University.

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B.A., 1965 (Mary Baldwin College); M.F.A., 1969 (George Washington University). Additional studies at Amercian Universities XAIX/Marseilles, American University/Cairo and Washington, D.C., Penland School, German Language Institute, the Concoran School of Art, University of North Carolina at Charlotte, University of North Carolina at Chapel Hill.

LANIER, CONNIE C., Behavioral and Social Science
A.B., 1960; M.A., 1962 (Emory Unversity); Ed.D., 1981 (Nova University); Cognitive-Behavioral Psychotherapist, 1988 (Georgia State University). Licensed Psychological Associate.

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B.A., 1963 (Queens College). Graduate study at the University of Florida and the University of South Carolina.

LASSITER, WILLIAM, Hospitality Education
A.S., 1981 (Culinary Institute of America). Additional study at Western Carolina University.

LAUNT, JONATHAN T., English and Foreign Languages
B.A., 1967; M.A.T., 1969 (University of North Carolina at Chapel Hill). Additional study at Clemson University.

LAVERGNE, JULIE E., Senior Lab Facilitator, CAD/CAM Center
A.A.S., 1989 (Central Piedmont Community College).

LAVIN, JANE BAKER, Director, Dental Assisting Program
B.S., 1970 (West Virginia University).

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LEE, RAYMOND, Counselor, Talent Search
Study at Johnson C. Smith University, Temple University, and Spear and Hutchinson.

LEGG, CECIL A., Computer/Electronic/Electrical Technology
B.S.E.E., (West Virginia University). Attended University of Cincinnati. Licensed Professional Engineer, New York and North Carolina.

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Bachelor Architecture, 1960 (Clemson University); M.Ed., 1989 (Appalachian State University).

LEWIS, LILLIAN R., Accounting Specialist
B.A., 1964 (Johnson C. Smith University).

LEWIS, THEODORE H., Computer and Office Information Systems Technology
Study at Western Carolina University.

LINDLEY, JOBEA R., Graphic Arts
B.S., 1959 (University of Oregon); M.S., 1964 (University of Oregon). Additional undergraduate study at Central Piedmont Community College. Additional graduate study at Johns Hopkins and Towson State College.

LIPPARD, MURIEL, Programmer Analyst
B.S., 1968 (Northern Illinois University); M.S., 1971 (Northern Illinois University).

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B.A., 1983 (Winthrop College). Graduate study at Winthrop College and University of South Carolina.

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B.A., 1978 (Johnson C. Smith University). Additional study at Appalachian State University and University of North Carolina at Charlotte.

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A.A., 1975 (Central Piedmont Community College).

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A.A., 1963 (Gardner-Webb College); B.A., 1965 (Furman University); M.A.T., 1971 (Winthrop College); Ed.D., 1980 (North Carolina State University).

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B.A., 1968 (Wake Forest University); M.Ed., 1972 (University of North Carolina). Additional graduate study at University of North Carolina. National Certification in Counseling. Registered Practicing Counselor, State of North Carolina.

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B.S., 1979 (North Carolina State University); M.A., 1983 (University of North Carolina at Charlotte).

MAIORANO, JONA, Director, Interpreter Training Program
B.A., 1979 (University of North Carolina at Charlotte); M.A., 1988 (Appalachian State University). Nationally Certified Interpreter. Comprehensive Skills Certificate.

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B.A., 1976 (University of Oklahoma); M.S., 1985 (Oklahoma State University). Graduate studies at University of Oklahoma and Golden Gate Seminary.

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B.S., 1974 (Elon College).

MARTIN, SAUNDRA R., Business Administration
B.A., M.A. (North Carolina Central University).

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A.A., 1975 (Central Piedmont Community College); B.S.,1981 (University of North Carolina at Charlotte); J.D., 1985 (University of Puget Sound); Admitted to practice law in North Carolina and Fourth Circuit Federal Court.

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A.B., 1960 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University); Ph.D., 1973 (University of Alabama).

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R.N., 1960 (Presbyterian Hospital School of Nursing); B.S., 1961 (Queens College). Additional study at Queens College and University of North Carolina at Charlotte. Certified Medical Assistant.

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B.S., 1980 (Johnson C. Smith University); M.S., 1982 (University of Tennessee). Additional study at University of North Carolina at Chapel Hill.

McALEXANDER, GLENDA K., Dental Hygiene
A.A., 1967; A.S., 1971 (Central Piedmont Community College); B.A., 1984 (University of North Carolina at Charlotte).

McALEXANDER, J. AARON, Physical Science
B.A., 1961 (Appalachian State University); M.A.T., 1965 (University of North Carolina at Chapel Hill); Ed.D., 1976 (Nova University).

McCASKILL, BENNIE, Senior Lab Facilitator, Visual/ Performing Arts
A.A.S., 1982; A.A.S., 1984, (Central Piedmont Community College).

McCLAIN, THEORDORE, Auto Body Repair
Study at North Carolina Agricultural and Technical State University.

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N.C. State Level III, 1982 (Charlotte, North Carolina).

McDERMOTT, SUSAN C., Director, Health Technologies Program
B.S., 1980 (University of Texas, Medical Branch).

McDONALD, PEGGY P., Health and Physical Education
B.S., 1958 (Winthrop College). Additional study at University of South Carolina.

McDOW, ROGER, Air Conditioning, Heating and Refrigeration
Diploma, 1984 (Central Piedmont Community College).

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McMANUS, ELLA L., Computer Science and Office Information Systems Technology
Diploma, 1983; A.A.S., 1985 (Central Piedmont Community College).

McMULLIN, DENNIS G., Director, Commercial Art
Professional Diploma, 1963 (Maryland Institute College of Art). I.D.E.C.

MEE, MARY ANN, Performing Arts, Dance
B.F.A., 1967 (Stephens College). Additional study at Texas Woman's University, University of Oregon, American Dance Festival at Connecticut College, Perry-Mansfield School of Theatre and Dance, Charles Weidman:Expression of Two Arts Theatre.

MELSON, SUSAN CRANE, Senior Librarian
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B.S., 1986 (Auburn University).

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A.S., 1957 (Southern Technical Institute); B.S., 1968 (North Carolina State University).

MILLMAN, ALFRED L., JR., Automotive Technology
Diploma, 1967 (Gaston College). ASE Master Automotive Technician.

MILLS, BILLIE, Purchasing Agent I
Study at Queens College, City University of New York, Central Piedmont Community College.

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RN, 1955 (University School of Nursing). Additional study at North Carolina State University.

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B.S., 1966 (University of Alabama); Certificate in Respiratory Therapy, 1968 (Duke University Medical Center).

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A.A.S., 1987 (Central Piedmont Community College); B.S., 1990 (Queens College).

MYERS, MICHAEL G., Marketing Services
B.S., 1953 (Davidson College). Additional study at Harvard University.

MYLES, HARRY E., Computer/Electrical/Electronics Technology
B.S.E.E., 1957 (University of Toledo); M.S.E.A., 1966 (Syracuse University). Registered Professional Engineer.

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Study at Miami Dade Community College; Certificate, Stanly Technical College.

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B.S., 1975 (University of North Carolina at Charlotte); A.A.S., 1986 (Central Piedmont Community College); M.Ed., 1991 (University of North Carolina at Charlotte).

NELSON, CLARA E., Accounting
B.S., 1962; M.A., 1965 (Applachian State University).

NELSON, GARY, Business Administration
B.S., 1970 (Southern Illinois University); N.H.D.L., 1980 (University of North Carolina at Charlotte). Additional graduate study at Winthrop College.

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B.S., 1970 (Aalborg Seminarium, Denmark); B.A., 1974 (Ambassador College, England).

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A.B., 1947; LL.B., 1956 (Washington and Lee University).

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B.A., 1971 (University of Wisconsin-Madison); MPA, 1986 (University of North Carolina at Charlotte).

ONYEME, KRISTIN J., Cooperative Education
B.A. 1980 (University of North Carolina at Chapel Hill).

ORELL, MARGERY, Library Services
B.A., 1968 (Santa Clara University); Master of Librarianship, 1975 (University of Washington).

OTTERBOURG, EDNA M., Biology
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PASCHAL, MARY LOU, Music
B.M. (Oberlin Conservatory of Music); M.M. (University of Mississippi). Additional graduate study at Harvard University and Winthrop College.

PAYNE, ANN, Supervisor, Welcome Center
Diploma, 1963 (Waco Business College); Additional study at Central Piedmont Community College.

PAYNE, JAMES W., Welding
Study at Western Carolina University, Central Piedmont Community College, and F.M.C. Ordinance Division Welding School. A.W.S., A.S.M.E., A.B.S. and Military Welding Codes Qualifications, steel and aluminum.

PECKOUS, BEVERLY, Associate Degree Nursing and Practical Nursing
Diploma, 1973 (West Suburban Hospital School of Nursing); B.S.N., 1975 (University of Iowa). Graduate study at the University of Northern Illinois.

PENNINGTON, ARIS T., Program Coordinator, Continuing Education
B.S., 1972 (Tuskegee Institute).

PERKINS, WILLIAM S., Writer/Producer
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B.A., 1962 (Wheaton College); M.B.A., 1970 (Georgia State University); Ph.D., 1981 (University of North Carolina at Chapel Hill).

PITTS, CAROLYN, Director Financial Aid/Veterans and Military Affairs
B.S., 1966 (Livingstone College); M.Ed., 1976 (University of North Carolina at Charlotte).

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Dental Assisting Diploma, 1968 (Central Piedmont Community College). Additional study at Lee McRae College.

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PRIVETTE, DAVID R., Physical Science
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B.A., 1970 (Bard College); M.Ed., 1976 (University of New Hampshire); Ed.S., 1979 (Appalachian State University).

QUINN, EMMA R., Director, Small Business Center
B.G.S., 1980 (Queens College). Additional study at University of North Carolina at Charlotte.

RANDALL, ANNETTE M., English and Foreign Languages
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RASMUSSEN, PHILIP M. II, Instructional Resources and Development
B.S., 1971; M.S., 1972 (Rochester Institute of Technology); Certificate, 1988 (Defense Equal Opportunity and Management Institute); Certificate, 1990 (US Army Engineer School). Additional study at the University of Wyoming and Florida State University.

READ, DANIEL EDWIN, JR., Biology
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro and University of North Carolina at Charlotte.

REEP, SAMUEL C., Department Head, Mathematics
A.A., 1958 (Lees-McRae College); B.S., 1960; M.A., 1964 (Appalachian State University). National Science Fellowship, 1967 (Florida State University). Additional undergraduate study at North Carolina State University. Additional graduate study at Carleton College.

REID, ANN C., Computer and Office Information Systems Technology
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).

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B.A., 1976; M.A., 1978 (State University of New York at Binghamton); J.D., 1983 (University of North Carolina at Chapel Hill).

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ROSS, MARGARET M., Minoirty Recruiter
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SILLS, ALICE B., Associate Degree Nursing
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SMALLS, SHIRLEY A., Mathematics
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STANLEY, KAREN, English and Foreign Languages
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STEARNS, LARRY M., Biology
B.S., 1962 (Maryville College); M.S., 1965 (University of Tennessee); Ph.D., 1970 (Clemson University).

STEARNS, MARTHA M., Advancement Studies
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STEELE, JUDITH, Dental Hygiene
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STILLWELL, GORDON STEVE, Automotive Technology
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STRICKLAND, SAM J., Supervisor, Maintenance
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STROUD, LOUISE F., Coordinator, West Area Center
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B.S., 1950 (East Tennessee State University); M.A.L.S., 1952 (George Peabody College, Vanderbilt University). Additional study at University of Tennessee and Memphis Academy of Arts.

SUMEREL, JERRY J., Interpreter, Special Services
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SUMEREL, TANYA, Interpreter, Special Services
Interpreters Certificate (National Registry of Interpeters); A.A.S., 1984; A.A., 1986 (Central Piedmont Community College)

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TAYLOR, MARTHA MACKAFEE, Senior Library Assistant
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TONG, DIEP N., Supervisor, Accounting
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WEEKS, ROGER, Real Estate
B.A., 1967 (Southwest Missouri State College); M.S., 1969 (Iowa State University).

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B.S., 1952 (Fayetteville State University); M.A., 1968 (North Carolina Central University); Ed.D., 1972 (Duke University).

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B.S., 1987 (Limestone College)

WHITLEY, RALPH W., Behavioral and Social Science
A.B., 1965 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University).

WHITT, BARBARA L., Adult High School (English)
B.A., 1969 (High Point University). Additional study at the University of North Carolina at Charlotte.

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B.M., 1956 (North Texas State University); Diploma in Piano Tuning and Repair, 1964 (North Bennett St. Industrial School, Boston)

WILLIAMS, BETTY GAILE, Counselor
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B.A., 1971 (University of North Carolina at Chapel Hill); M.A., 1977 (University of Northern Colorado); A.S., 1980 (Central Piedmont Community College).

WILSON, MARJORIE, Advancement Studies
A.B., 1972; M.S., 1973 (State University College, Fredonia, NY).

WILSON, WILLIAM RAY, Mathematics
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WINSTON, RANDALL P., Program Director, Occupational Health, Safety and Environmental Technology.
B.A., 1975 (Fairmont State College); M.S. (West Virginia University). Additional study at University of North Carolina at Chapel Hill.

WISDOM, STAN L., Behavioral and Social Science
B.A. 1970 (University of North Carolina at Charlotte); M.A., 1977 (East Carolina University). Additional study at North Carolina State University.

WOLF, CHERYL J., Dental Assisting
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WOOD, EDGAR L., Computer/Electrical/Electronics Engineering Technology
B.E.E., 1962 (University of Florida); Master of Engineering, 1968 (Pennsylvania State University).

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B.S., 1950 (United States Military Academy); M.S.C.E., 1958 (Texas A & M University). Registered Professional Engineer.

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B.A., 1968 (Belknap College); A.A.S., 1970 (Rowan Technical Institute); B.S., 1982 (Edison State College).

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B.S., 1960 (The Citadel).

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B.A., 1969 (Furman University); M.S.M., 1971 (Union Theological Seminary School of Sacred Music, NY).

ZOLLINGER, RICHARD K., Director, International Business Program
B.A., 1979 (School of Commerce, Zuerich, Switzerland); B.A., 1984; M.A., 1987 (East Carolina University).

Course Prefix Index and Glossary

Course Prefix Index

ABE	Adult Basic Education
ABL	Adult Basic Literacy
ACC	Accounting
ADV	Advertising
AHR	Air Conditioning, Heating and Refrigeration
ANT	Anthropology
ARC	Architectural Technology
ART	Art
AUB	Automotive Body Repair
AUT	Automotive Technology
BAF	Banking and Finance
BIO	Biology
BUS	Business
CHM	Chemistry
CIV	Civil Engineering Technology
COE	Cooperative Education
CSC	Correctional Services
DAN	Dance
DEA	Dental Assisting
DEN	Dental Hygiene
DFT	Drafting
DRA	Drama
DRG	Drug Administration
DSL	Diesel Vehicle Maintenance
ECA	Early Childhood
ECO	Economics
EDN	Interior Design
EDP	Computers (Electronic Data Processing)
EDU	Education
ELC	Electrical Installation and Maintenance
ELN	Engineering Technology
ENG	English
ESL	English as a Second Language
FAS	Fashion Merchandising and Marketing
FIN	Finance
FIP	Fire Protection
FRE	French
FSO	Foodservice
GED	General Educational Development
GEL	Geology
GEN	General Studies
GEO	Geography, Physical
GER	German
GPY	Geography, World
HED	Health Education
HIS	History
HOR	Horticulture
HPE	Health and Physical Education
HRC	Hospital Ward Secretary
HRD	Human Resources Development
HRM	Hotel/Restaurant Management
HSA	Human Services
HSD	High School Diploma, Adult
HSE	Health Safety, & Environmental Technology
HUM	Humanities
INS	Insurance
INT	International Business
IPP	Interpreter Training
ISC	Manufacturing Engineering Technology
ITA	Italian
LEP	Learning Skills
LEX	Paralegal
MAC	Machinist
MAT	Mathematics
MEC	Mechanical Engineering Technology
MED	Medical Assisting
MET	Medical Transcription
MGT	Management/Business Administration
MKT	Marketing and Retailing
MRT	Medical Records Technology
MUA	Applied Music
MUS	Music
NUP	Nursing, Practical
NUR	Nursing, Associate Degree
PHI	Philosophy
PHY	Physics
PME	Small Engine Repair
POL	Political Science
PRN	Graphic Arts, Printing
PSC	Law Enforcement Technology
PSM	Postal Service Technology
PSY	Psychology
PTH	Physical Therapist Assistant
PTL	Peer Tutoring
RDN	Reading
REA	Real Estate Appraisal
RES	Real Estate
RTH	Respiratory Care Technology
RUS	Russian
SEC	Secretarial
SOC	Sociology
SPA	Spanish
SPH	Speech
SWK	Social Service
TAT	Travel and Tourism Technology
TRN	Transportation
WLD	Welding

Glossary

The explanations below define words that are frequently used at Central Piedmont Community College.

Academic Advisor — A member of the faculty in a specified program who works with students in that program to help them reach their educational goals.

Academic Assistance — Students working for a degree, diploma, or certificate are placed on Academic Assistance when they earn a GPA less than 2.0 (C) in any quarter, or when they complete less than half of the quarter hours successfully for which they registered.

Academic Intervention — Students working for a degree, diploma, or certificate are placed on Academic Intervention when their program GPA in any quarter is below Standards of Progress required for the number of quarter hours they attempted.

Academic Suspension — Students working for a degree, diploma, or certificate are placed on Academic Suspension after they have been on Academic Intervention for two consecutive quarters of enrollment and their program GPA remains below Standards of Progress.

Advancement Studies Courses — Pre-college courses (identified with 9000 numbers) that prepare students for college-level courses.

Advisement Day — a day each quarter, prior to registration,

when no classes are held in order to provide time for students to meet with their Faculty Advisors or Program Counselors.

Associate Degree: A document issued to a student signifying completion of a two-year curriculum/program.

Basic Studies: Pre-college courses that include Adult Basic Literacy Education (ABLE); Adult Basic Education (ABE); Adult High School Diploma (HSD); and General Educational Development (GED).

Business, Health, and Technology Programs: Certificate programs (less than one year), diploma programs (one year), and Associate in Applied Science Degree programs (two years or more) that contain courses with 3000-4000 numbers. Some completed two-year degrees may transfer to four-year colleges or universities. Consult with a Faculty Advisor or Program Counselor regarding transferability.

Certificate: A document issued to a student signifying completion of a specific series of skills courses. A certificate curriculum/program is less than one year in length.

College Visitation Day: Usually held annually during the first week in February in the Taylor Gym from 11:30-1 p.m. when representatives from many four-year colleges and universities, and representatives of the armed services, are available to CPCC students to provide information.

Course Description: Describes what is taught in the course, what the objectives are, and what the student should be able to do upon completion. Classroom hours, laboratory hours, clinic or Co-Op hours, credits earned, and prerequisite/ corequisite (if needed) are listed at the end of the course description.

Continuing Education Unit (C.E.U.): A unit earned in courses offered through Corporate/Continuing Education.

Corequisite: A course that must be taken during the same quarter as the course that requires the corequisite.

Credit: The number of units earned upon completing a curriculum course, measured in quarter hours.

Curriculum (also called a Program): A set of courses designed to prepare a student either to enter the workforce immediately upon completion or to transfer to a degree program at a four-year college or university. Depending upon the length of the program, a degree, diploma, or certificate is awarded upon completion.

Corporate/Continuing Education: A Center at CPCC that offers continuing education and extension courses for local businesses, for upgrading skills, or for personal enrichment. These courses have 7000-8000 numbers; some offer C.E.U.'s.

Diploma: A document issued to a student signifying completion of a one-year college curriculum program; also a document signifying completion of the Adult High School Diploma program.

Drop/Add: Changing a student's class schedule after registration during the time when this can be done without penalty.

Elective Course: A course that the student may choose to take to meet diploma/degree requirements, as distinguished from required courses. Some electives are specified within areas, such as Technical Electives, Humanities/Art Electives, others are Free Electives.

Faculty Advisor — a member of the faculty in a program who is assigned as an advisor to students in that program to help them meet their educational goals.

Full-Time Student: A student enrolled for 12 or more credits per quarter.

Grade Point Average (GPA): The total number of grade points earned (A=4; B=3; C=2; D=1; F=0) divided by the total number of quarter hours attempted.

In-State Student: A legal resident of North Carolina.

Out-of-State Student: A legal resident of a state other than North Carolina, or a legal resident of a foreign country.

Part-Time Student: A student enrolled for fewer than 12 credits per quarter.

Prerequisite: Any course that must be completed before enrolling in the course requiring the prerequisite.

Program: See Curriculum.

Program Description: Information about the program including the official definition, degree/diploma/certificate awarded, admissions processing, and a listing of courses in that curriculum.

Program GPA — the grade point average of the courses that are required for completion of a program. To remain in good academic standing, students must maintain a program GPA in accord with the hours for which they enroll, as prescribed by the CPCC Grading Policy. Students must have a final program GPA of 2.0 (C) in order to graduate.

Standards of Progress — These are part of CPCC's Grading Policy and include requirements for students in degree, diploma, and certificate programs to maintain good academic standing. These standards include completion of courses, minimum program GPA, and minimum quarterly GPA. When students do not meet these standards, they are placed on Academic Assistance, Academic Intervention, or Academic Suspension and they work more closely with their Faculty Advisor or Program Counselor in order to reach their educational goals.

Transcript — A student's official academic record.

Transferability — Whether or not a course or program will be accepted by another college or university.

Transfer Programs — See Catalog section on College Transfer programs.

Tuition — The amount of money a student must pay at the time of registration for each hour of academic credit based on the student's residency classification.

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